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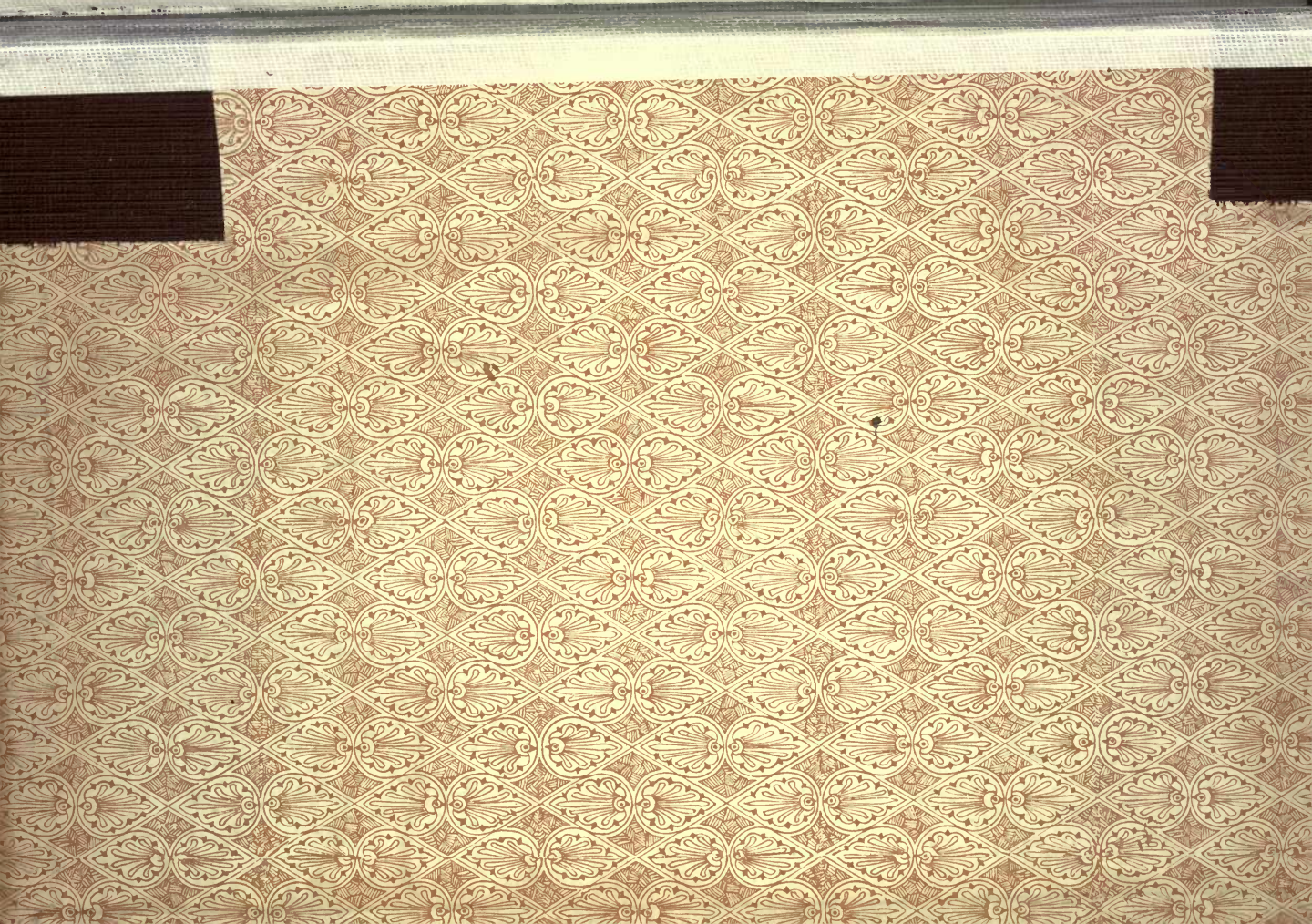

George Lambert.

Norman Allin

THE ART OF BREATHING.

Very sincerely
Yours
Leo Koffler

FIFTH AMERICAN AND FIRST ENGLISH EDITION.

THE ART OF BREATHING

AS THE

BASIS OF TONE-PRODUCTION.

A BOOK INDISPENSABLE TO SINGERS, ELOCUTIONISTS, EDUCATORS, BARRISTERS, CLERGYMEN, AND TO ALL OTHERS DESIROUS OF HAVING A PLEASANT VOICE AND GOOD HEALTH.

BY

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PART I.

ITEMS OF INTEREST TO THE READER.

CHAPTER I.

THE HISTORY OF THIS BOOK.

An old friend of mine, a literary man of considerable merit, who had written a number of books, asked me once: "What do you think I find the hardest part of a book to write?" As I could not tell, he informed me, to my surprise, that it was the introduction or preface. "In that case, why do you write one?" "Because it would not do to send a book out into the world without it. The preface is the passport by which the book proves that it has legitimate reasons for existence; it is the letter of introduction which I send with it to all whom it may concern."

I do not share this opinion. I consider the preface the most unnecessary part of a book. If it contains things pertaining to the subject-matter, either in itself or as far as its own or the author's history has had any bearing upon the shaping of the product of his pen, then I should rather see it as part and parcel of the book itself. But if the preface contains things referring to different matters, is there really, then, any excuse for it? Very few persons read the introduction to a book, especially if it be more than half a page in length. My opinion is, either omit it altogether, or write a very short one. The reader can see that I am in favor of the first proposition.

One peculiarity in the history of my book is this: I never had the slightest intention of writing it, but was led into it by degrees. The

beginning of it I date back to a series of polemic articles which I wrote for the *American Art Journal*, in 1880. I shall not mention what the controversy was about. I hate quarrels; I do not remember one that, when it was over, I was not sorry for having entered into. Still, as the articles in question were the result of very diligent research and study, I was loath to let them have only such an ephemeral existence. This was impressed upon me by a conversation with Mr. Edgar S. Werner, the editor of *Werner's Voice Magazine*, who invited me to use these articles as the basis of a serial for his journal and to be printed afterward in a pamphlet, for use by my pupils. I found it very inconvenient to have pupils copy the breathing-gymnastics and the articulation-exercises from manuscript. Moreover, I observed how hard it was for beginners to remember all the explanations and theories, and how easy to misunderstand them. I was convinced that they would make much quicker progress if they could study from a book. It was not my intention, at the beginning, to make the treatise more than a small pamphlet. The interest and importance of the subject, however, led me on until the dimensions of a book were reached. It was finished in January, 1883, and bore the title "The Old Italian School of Singing." I never expected that it would find its way into the book market, and I thought the copies I had would last to the end of my professional career. But the book was very favorably received, and two years later it was out of print.

The thought, therefore, arose that the book, having made its own way, had established its right to existence; and, as the necessity of a second edition at the earliest moment was apparent, the plan of how to remodel and improve it has been uppermost in my mind for the last two years. There were many important subjects treated in the book that were not only of great interest to singers but to all who use their voices either as preachers, lawyers, teachers and, in fact, to every one who desires to preserve or improve his voice, if for no other purpose than for the charm of being a good conversationalist. But who, outside the singing-profession, would expect to find so much to their interest in a book bearing the title "The Old Italian School of Singing?" I concluded, therefore, to select

what was of general interest to speakers as well as to singers and publish it in one volume, with an appropriate title. This is the volume which I here present.

My book differs from the great majority of other works upon voice-culture in still another respect. The majority have been written when their authors were yet in the teens of their professional career. In perusing these volumes we come across many places where the thought involuntarily crosses our minds: How much better it would have been if the author had waited twenty years before writing his book! I entered the musical profession young in life, and have always been a very close student, especially of vocal science; still I did not dare to come out with one printed sentence until I was satisfied that I could say something that had been matured within myself, and that had borne fruit for years in the many pupils who do credit to the principles of my book.

To the friends of the first edition, who may miss a great many things in this volume that were in "The Old Italian School," I wish to say that my intention is to publish the remainder some day in a separate book. The reason that I have paid so much attention to the laws of tone-production is because I know that without them voice-culture is a farce, and instead of leading to artistic singing, vocal instruction is degraded to a system of tricks and to virtuosity in howling.

CHAPTER II.

A SHORT AUTOBIOGRAPHICAL SKETCH AS FAR AS IT CONCERNS THE SHAPING OF THE PRINCIPLES CONTAINED IN THIS BOOK.

By "short" the reader should understand I mean it not only in regard to the number of pages, but also in the number of facts the sketch contains. My object is to call attention to those facts in my life which have had more or less influence upon the development of the practical ideas which I shall herein set forth. I must, therefore, exclude all the many thrilling incidents which make up the numerous evolutions and revolutions of my life, for they would be out of place here on account of their length, and especially because the peculiarly striking events of my career would give to these pages the appearance of romance and fiction, which would be inappropriate in a work of this kind, where the principal aim must be to convince, to prove, to teach.

§ 1. *A Very Early Professional Career.*

From hearsay and the usual documentary evidence, I know that I was born March 13, 1837, in Brixen, in the Tyrol, the most beautiful and most romantic province of the Austrian empire, celebrated not only for its wild and grand natural scenery, but also for its history. My father was organist and choirmaster of the parochial church, and followed music as a profession, which circumstance accounts principally for my early musical training. I have not the slightest recollection when my father commenced my instruction in piano and singing; all I know is that, as far back as my memory goes, I always played the piano and sang in my father's choir. At the age of ten, I believe, I became also a member of the chan-

cel-choir, as well as of the mixed choir in the cathedral in Brixen, in the orchestra of which my father played the "Bratsche" (the alto violin). At this time he began to instruct me in organ-playing.

It is customary in my home for the eldest son to follow the profession of his father, and invariably when the young offspring has higher ambitions or other predilections, he will have to fight hard against the ruling of Providence, which, in the Tyrol, is almost a synonym for father and mother. Yet my father was not only a very honest and good hearted, but also an intelligent man, and though he was bound that I should learn as much of music as I could and as early in life as possible, still he put not the slightest obstacle in my way, when, after finishing the common-school course, I asked his permission to acquire a complete classical education. My collegiate course commenced at the age of eleven in the gymnasium of Brixen, in 1848. At the same time my musical education and career were not interrupted, but received even a new impetus about Christmas of the same year, when I was formally appointed organist of the college church, called "Unsere Lieben Frauen Kirche," a position which I held six years without interruption, up to the time when I left my father's roof for good.

My Sundays and festival days were very busy days, in these last six years in Brixen. The three churches, in which I was engaged, stood very close together on one side of the so-called "Domplatz" (cathedral square). In the centre was the large and beautiful cathedral; close to it, and in fact, as a part of the design of the front view of the cathedral, was the little church of which I was the organist; at the lower end of the square and probably less than fifty steps from the cathedral was the parochial church. The services in these three churches were, by order of the bishop, so arranged that they never interfered with one another. First I played the organ at the high mass in the students' church; after that I rushed over to the parochial church to sing in father's choir or play the organ for him. Then I had to run to the cathedral to sing in the chancel-choir the "Matutin" and "Laudes." During the sermon I, with three or four other boys, left the chancel-choir, donned the surplice and went into the gallery to sing the high mass

with the mixed choir, accompanied by an orchestra. From seven o'clock in the morning till twelve or even one o'clock there was almost continuous work in church music. In the afternoon was the same routine, though these services did not last as long as in the morning. On week days there was one musical service in the parochial church and one in the cathedral immediately following each other, at both of which I had to sing.

I shall have to apologize to you, my dear reader, for telling you more of my early musical life than I promised. I come right back now to make you acquainted with that side of my professional career as young musician, which has had a decided influence upon my vocal studies in later years. I had two rivals in the cathedral choir, two fellow-students and companions from my earliest school days, though in the classical course we were separated, both of them relinquishing it for easier pursuits in life. One was Master Beer, the other, Master Wett. They were the possessors of voices of large compass, and, especially the former, of exquisite beauty. The other fellow was praised considerably for his singing, but I did not like his voice, for he sang always in nasal tones; otherwise he showed much taste and feeling in his singing. But that was undoubtedly because his mother was a good singer. Though not professional, she often sang a solo, upon invitation. I have invariably found that those boys whose mothers are good singers excel all others. All the solos that were to be rendered by boys' voices were given to those two, a fact which made my good mother sometimes almost frantic with jealousy and anger, and it frequently happened that after such heavy work as I had to perform on Sunday, instead of getting a good dinner, I was sent away from the table by my mother, because that Beer boy or that Wett boy was praised so highly for their singing, and her own boy was used only for chorus work. Father gave me then, secretly, something to eat, and consoled me by saying that I could not help it, for I had not as good a voice as the other two; and by my continuous sore throat it suffered considerably and lost its clearness; but, he added, "you can beat every one in the choir in reading at sight." I do not mean to convey the impression that my good mother was habitually unkind to

me, or that father petted me secretly to make up for it. Oh, no! they both belonged to the old school, and believed in heroic treatment, the principal feature of which is, that moral suasion will impress the pupil easiest and most lastingly by applying it with rattan canes, and that the most powerful motives for the mental improvement of children are urged upon them by branches of the birch tree. The above-mentioned bounty was simply a little plaster to cover up the defects of the system. Still father was correct about my reading at sight. If the regularly appointed soloists, no matter if it were the basso or tenor, the alto or soprano, were afraid to sing a solo that was put before them—for in those days every singer and musician was expected to read at sight, rehearsals were held only on exceptional occasions,—he or she would come quietly over to the alto-stand, upon which I was engaged, and take me to his or her desk to sing that solo for them. However, I myself felt that my singing gave no real pleasure, and it was no pleasure for me either, as much as I loved singing, because it fatigued me and made my throat sore. The musical director of the cathedral choirs, the Rev. Mr. Harasser, frequently pointed out to me the cause of my trouble, namely, that I strained my throat in singing, "which," as he said, "makes your voice sound harsh and is the cause of your frequent sore throat." The same remark was often made to me by visiting artists. I made it a point to watch those singers whose method of tone-production I considered good, because the sounds which they produced gave satisfaction to my ears; I tried to imitate them, but did not succeed. My father had the same trouble as myself; in fact, the only sickness I ever knew him to have was chronic sore throat. More than one physician told me that I inherited my throat-troubles from him. When I was young I accepted this as a sufficient explanation, but many years later I considered it an absurdity.

In one respect this unfortunate experience as a young singer exercised a depressing influence over me, and made me habitually averse to singing a solo, no matter what the occasion might be. This feeling became stronger as I grew older, and I may say that I have never got entirely over it. Before I was twelve years of age I begged my father to teach me to play the violin, that I might exchange my

position as singer for one in the orchestra. If I remember rightly, I was thirteen years of age when I was engaged by the Rev. Mr. Harasser to play the second violin, and two years later to play the alto violin, as my father had been appointed to the first violin. In another respect, however, I have just these same early troubles with my throat and voice to thank for that disposition of mind which caused me to study, to observe, to investigate, to know and to find out all about tone-production.

§ 2. *The Champion Questioner.*

In fact, this thirst to find out what I should do with my throat in order to produce good tones, caused me to become the "champion questioner" of my time; and, if it had not been for my youth and small size, I might have become a bore to a great many. As it was, I caused a great deal more amusement than irksomeness. I really cannot recall more than one or two instances in which professionals became wearied by the many questions I put to them. I had ample opportunity to ask questions. In those days it was, not as it is nowadays in some places, that the musical profession is up in arms one against another. Let one musician become a little more successful than another, then all will at once, as with mutual understanding, fly at him and endeavor to pull him down like the sparrows in old St. Paul's church-yard here, that persecute and all in accord raise a most terrible clatter and hammer with their beaks long and cruelly upon any other bird that may find its way into this most charming and beautiful spot, till the unfortunate songster either takes its flight or falls dead, a victim of these envious and greedy feathered pigs. In my father's house I never saw or heard of a similar case. It was the home of every musician who traveled through the place. Italians and Germans were equally welcome. In those days of no railroads, travel was slow and fatiguing, and Brixen, the romantic town of many very old historic relics, with the seat of the bishop and many important governmental offices, was a place where every artist made a stop on his or her concert-tour, and the probability was that, if worthy the attention, they could give several financially successful concerts.

Though it has nothing whatever to do with this sketch, still on account of the difference and the difficulties which an artist in those days found in preparing or managing a concert, I believe that I may add the following: The artist was his own manager. He had first to gain the good-will of the most prominent musicians of the town. This was easy, for, as I have already intimated, professionals treated each other like brothers. Such a call was like seeing an old friend, and he was also sure to find the most liberal hospitality, without his entertainers grumbling after he had left. The resident musical brother would give the concert-giver a list of the most prominent dignitaries of the church, of the aristocracy, of the officers of state, and of the richest inhabitants. The artist would then call in person and invite them to attend his concert. To some of these high personages it was important that the brother-musician of the town should introduce him personally, which was quite a self-sacrificing task for a busy man like my father.

This brought me, quite young, into contact with a great many of the most prominent musicians, and gave me innumerable opportunities to ask questions. I notice one circumstance which is well worthy the reflection of every student. It was especially those artists whom I found to bring forth their tones with the utmost ease and flexibility of the throat that I bothered the most with questions as to how and what they did, and what I should do in order to be able to do the same. Not one of them could ever give me the smallest practical advice as to *how* I could get rid of my trouble of stiffening my neck and forcing my tones with the throat. Another difficulty which I have not mentioned yet, was that I could never control my breath, even if I had taken a sufficient quantity; and though nearly forty years ago I was taught by an Italian singer, whose name I cannot now recall, the very important rule of holding the breath a little while immediately after taking it, so as to lose none and to get ready in the simplest way to produce tone, still I seldom had enough breath to finish a musical phrase.

I met with and heard a great many Italian prima donnas at my father's house, and was astonished to note how long some of them could sing with one breath. I would overwhelm them with questions

as to how they did it and how I could do likewise. All the advice given consisted of this: "Try and control the breath; don't let so much out at once; put a looking-glass or a lighted candle or a feather before the mouth while singing; if the glass become moist, if the flame or the feather flicker, that is a sure sign that too much breath is wasted." What practical good could such advice do? None whatever! "Control the breath." Yes, that's just what I could not accomplish. "Don't let so much out at once!" But how to avoid this, how to do the other, no one of the great singers could tell me. I came to the conclusion, when quite young, that if a singer has a good voice and uses it in a beautiful, natural way, it is simply a gift and by good luck that he or she does it, and they themselves don't know why and how they do it; but if any unfortunate mortal has a talent for music, but has acquired in youth, without knowing why and how, bad habits, then these same great singers are incapable of teaching the right way. They talk very intelligently about the musical side of singing, about style and expression, etc., but they seem to have no real knowledge of physiology or of voice-production.

At the age of fourteen my voice entered upon the process of mutation. I had then, as stated previously, already been a member of the orchestra instead of the choir; still, against the advice to abstain from all singing during this period, I had considerable singing to do on various occasions where my father needed me either in his own choir, or to take his place at evening services, especially at the so-called nine days' devotions in the many little churches and chapels of my "Vaterstadt," where, beside playing the small, portable pipe-organ, the organist had also to lead in the congregational singing. I assisted him also daily in his large singing-classes for boys and girls, which by and by he entrusted almost exclusively to me. As soon as my voice had changed to some extent, at least so much that I could sing tenor, I organized a singing-club among my fellow-students, which became very popular. As my voice kept on changing I sang second tenor, then first basso; and, at the age of sixteen and a half, I was the most solid second basso in the club. Nobody, not even the wisest, ever dreamed that the boy with that unpromis-

ing voice would become, after mutation, the possessor of a very powerful, round and sonorous bass voice, with a large range. I may mention here also—because it reconciled the jealous heart and pardonable pride of my mother—that the two before mentioned rivals of mine, Wett and Beer, underwent the process of mutation about the same time, and also then became members of the orchestra as violin-players, but afterward came out of the period of development with almost complete loss of their singing-voice; consequently, they remained thereafter in the orchestra and never attempted to sing, even in chorus. This may at first sight appear to be a singular instance, but I can recall a great number of similar cases; and I have especially noticed in New York city the careers of several boy-sopranos in the various chancel-choirs and found that very rarely after mutation were their voices good enough for a vocal career. There are a few, but it is a comparatively small percentage. I may be pardoned for asking: How can this be accounted for? I may not be able to give the exact reason; however, I believe that the cause is a double one: first, they have to sing too much in one service, and (especially the soprano-soloists) have to sing too high. I mean the latter in a twofold sense, namely, notes of too high a pitch altogether, wherever the more pretentious anthems of the Anglican church and the grand masses of the Romish church are performed; and, beside that, the music in general keeps the voices almost throughout in a range higher than is good and healthy for boy-trebles. Besides, I consider it injurious to young voices to sing so much without first being trained; and, moreover, they are often used continuously during mutation, which is, as a rule, very bad. In regard to my two principal troubles as boy-singer I may say that, after mutation, they appeared not to have altered much; I noticed that I had more endurance, and that the quality of my voice was not affected as much as before; and this, as I supposed, was on account of the greater strength of the larynx-muscles and vocal ligaments after their complete development.

§ 3. *A Profitable Season in Berlin and My Career in America.*

I was now seventeen years of age, the time that brought about a step which robbed me of eleven precious years, a loss which I shall never be able to repair. As my occupation during this time was more of a theological and less of a musical nature, I can pass it over in silence. I am happy to say that after a long struggle I was lucky enough to cut through it with one powerful and daring stroke, and I found myself, September, 1865, matriculated as an enthusiastic student at Prof. Julius Stern's Conservatory of Music in Berlin. The half year that I spent in Berlin was days of rich harvest, full of enjoyment in the highest class of musical performances, to which I gained access several times every week through the kindness of Prof. Stern. The favors and friendship which this gentleman bestowed upon me will always remain one of the most precious remembrances of my life. There were other professors in that institution to whom I am indebted for much, but I can mention here only Prof. Rudolph Otto, who was one of the most refined concert-singers of that great seat of intelligence. Naturally not the possessor of a voice either of great power or beauty, he made it, through persevering work, what it was. He has been for several years now professor at the University of Berlin, at the head of the ballad-department. From his example, as well as from his teaching, I learned more than from all the others put together before him. He had exceptional skill in developing the high tones of male voices. Under his guidance my voice gained the exceptional range of two and a half octaves. He gave me, also, the first impetus to a thorough study of articulation. I had one very annoying speech-defect for which I was often reproved by my former teachers, though they were unable to point out a remedy. With Otto's advice and exercises I conquered it in two weeks of incessant practice, by day and night. His example, as well as his skill in imparting the art of singing with good style and expression, was adequate to all classes of music. Still, in regard to my two principal troubles, even he was no more help than those before him. With a deep sense of gratitude I mention also the former Capell-

meister of the Berlin Opera House, Mr. Heinrich Dorn, in whose studio I was a frequent and close observer of his method of vocal training. I also enjoyed this privilege in the class-rooms of Profs. Stern and Otto.

Early in the spring of 1866 I brought this highly remunerative season of knowledge-gathering in Berlin to a close, and I found myself on a Hamburg steamer sailing for the land of the free. Having worked in church-music more or less all my life, I looked, naturally, for a similar position here. Through the German Immigrant Society, I was recommended to a German Lutheran church in Newport, Ky., just across the Ohio river from Cincinnati. I was engaged there a week after I had arrived in this country. This proved anything but a pleasant situation, and after a short time I exchanged it for a position as organist and choirmaster in the cathedral of Covington, Ky. In those days I was not at all vigorous in health, and the acclimatizing was a very slow process. Not mentioning several minor sicknesses, I had an attack of Asiatic cholera. Against expectation, I recovered from this, but was convalescent for a long time and was forced to give up work. As soon as I became strong enough, I settled in St. Louis the same year. There I met with immediate success. I became basso in the quartet-choir of the Church of the Messiah, of which Dr. Elliot, the president of Washington University, was pastor. I also became director of three German male singing-societies. Overwork, but more than this, the climate of St. Louis, caused again a serious and protracted illness from malarial fever. At the doctor's advice, I gave up my prosperous career of one year in St. Louis as reluctantly as I had left Berlin, and returned to Covington. After I had recovered sufficiently, I accepted a position as basso in the quartet-choir of the First Presbyterian church of Cincinnati. Three months later I became the organist of the same church, and remained for over four years. I also filled the position of vocal teacher at Miss Clara Baur's Conservatory of Music. In the fall of 1871, I received a call as organist to a prominent church in Brooklyn, through the influence of my pastor in Cincinnati, the Rev. Charles L. Thompson, D. D. When I got to Brooklyn I found that the

proposed change not only would embark the trustees in a lawsuit with the organist incumbent, but would also cause a dangerous split in the church. Under such circumstances I thought it best to withdraw, and I accepted a position as basso in the quartet-choir of the South Congregational Church, Brooklyn, of which the Rev. Dr. Storrs was pastor. At the same time I was persuaded by my good friend, the elder Mr. Julius Schubert, to take charge of the piano and vocal department in a young ladies' boarding school in Morristown, N. J., and, as my work prospered, I removed to that beautiful town, having also accepted there the position as organist and choirmaster in the First Presbyterian church. After nearly three years I exchanged this for an engagement offered as solo basso and choirmaster of St. Alban's high ritualistic church in New York city, and, in the following year, I accepted the coveted position as organist and choirmaster of St. Paul's Chapel, Trinity Parish, which I entered upon May 1, 1877.

§ 4. *Fighting Consumption Successfully with Breathing-Gymnastics.*

I must again ask the reader's pardon for apparently acquainting him with facts which seem to have no bearing upon the purpose of this sketch. Still I have my reasons for so doing; and, as they are principally of importance to myself, I need not waste time in explaining them, but rather undertake to show how I finally succeeded in getting rid of my troubles altogether. It is a peculiar coincidence that the fact of hereditary consumption in my family led me to find the much-desired remedy for my voice and throat-troubles. As far back as 1864, my two eldest sisters were in a protracted state of the dire disease, and one younger than myself had unmistakable symptoms of it. My father was a very strong and healthy man, whom I never knew to be sick with the exception of his throat-troubles. But his own father and his two brothers and only sister died of consumption, all in the prime of life. One of the two uncles mentioned had a large family, but all of them died young of this malady. My grandmother also seemed to have had the same trouble, though she died old, after having been confined to her bed for several years, and I never knew her to look otherwise than as a skeleton. The Tyrolese

adage proved true in her case: "One who coughs long, lives long." Before I left Berlin for the United States the above-mentioned three sisters had died of consumption. One more followed them in a few years, from the same disease. I myself showed symptoms of this trouble when I was twenty-three years of age, though by care and correct treatment, I got over it, not only at that time, but several times after, when they reappeared. Still there always remained one symptom as a threatening possibility that I was to share the same fate before long: I took cold at the slightest exposure and invariably it went very hard with me. Nearly always the cold settled upon my lungs; and I remember that not longer than twelve years ago some anxious friends warned me, if I did not get rid of these terrible colds and coughs, I should, before long, have more serious trouble.

I also suffered for more than ten years from bilious disorders; and, though I tried many physicians and many remedies and led a very quiet and abstemious life, still the biliousness increased and became almost chronic. In this condition the year 1876 found me.

About that time I received a letter from my favorite sister Anna, who was nearly two years my senior, in which she communicated to me the sad news that she had unmistakable signs of consumption. This was very unexpected, for she, next to me, was the strongest one in the family. When I saw her last — I believe she was then twenty-five years old — she was a perfect picture of health, tall, broad-shouldered and well proportioned, full of life and good humor, real living sunshine. In the letter referred to she sent me her photograph, and I saw at a glance that her fears were well founded. I could hardly believe that it was her picture. Her shoulders now were sloping, her chest was sunken, the verdict was plainly written under her eyes and on her sunken cheeks. Remembering so well how much alike we two used to look when we were young, I could not help seeing that now I had more resemblance to her, as I beheld her in that photograph, than I wished to have under the circumstances. She died three years later of the same disease as did the other five sisters. But I love this life for the sake of the work that I do, and I love my work for the sake of my life and that of my dear

wife and children. I did not wish to die, and I fully made up my mind to fight death.

I went systematically to work. As far as I was able to learn, I was right in concluding that the consumption of which my sisters died was a gradual wasting away of their vital powers on account of a disordered digestive system. How far pulmonary troubles were agents in their death, I was unable to ascertain. I began studying closely my past life in its minutest details; besides this, I began a close scrutiny of the workshop of the human organism. I studied thoroughly Dr. Klencke's "Makrobiotic;" Dr. Paul Niemeyer's "Die Lunge;" Dr. Mandl's "Hygiene of the Voice;" the works of Lennox Browne and Emil Behnke; Herrmann's and also Huxley's Physiology; Dr. Witkowski's "The Human Body;" Dr. A. C. Neumann's "Die Athmungskunst des Menschen;" Dr. Fr. Bicking's "Die Gymnastik des Athmens;" Guttmann's "Gymnastics of the Voice;" the system of Prof. Frobisher and a number of others. But especially must I mention Dr. Henle's Anatomy, which is acknowledged to be the most scientific work on the subject. From him I derived my method of taking a full breath. That part of Henle's book appeared over thirty years ago. He is the real pioneer in this branch. I also practiced laryngoscopy for some time at the Metropolitan Throat Hospital, New York, with the kind assistance of Dr. Whitfield Ward. This opened the very gate to knowledge.

The most important conclusion that I arrived at was this: The lungs are the most prominent and necessary agent in the human body, the source of the warmth and the purity of the blood. The lung-power, if managed by a sensible and active engineer, is the best means of keeping the digestive organs in good working order. As this topic will receive due consideration in the proper place in this book, I need not dwell longer upon it here. But I take immense pleasure in stating that my determination to fight death was not formed in vain. I fought it successfully. Of course, no one of us knows when his time will be up, but I have good ground for believing that I shall never be a victim of consumption. Any one can easily satisfy himself in this regard by a glance at my

likeness in the front of this book. This is one reason why it was inserted; the other is because many of my pupils and friends asked me to do so for their gratification.

To the faithful and persevering practice of breathing-gymnastics, I ascribe the fact that for nearly ten years I have been a thoroughly well man. I have not had a cold on my lungs in all this time. I have rarely a bilious attack and my digestion is most excellent. Of my sad family history there seems to be but one unpleasant feature left—my life insurance policy. When I applied, in 1878, for a regular life policy, I was rejected, and was allowed only an endowment policy of $1,000 at the enormous annual premium of $54.26 for fifteen years. This is small comfort to a man desirous of providing for his family in case of emergency. But, thanks to my breathing-gymnastics, my constitution is capable of enduring not only continuous work, but overwork. At the age of 52, I am stronger and healthier than ever before; and thus I hope that my own life insurance, which my breathing-exercises may prolong for a number of years, will enable me to make up for the small policy in the New York Life Insurance Co.

§ 5. *The Question Solved.*

Welcome as this result was, I can vouch that it gave me no less pleasure to know that these studies had brought me to the complete solution of that question which occupied my mind so early in life and ever since, namely, how tones should be produced, how the voice ought to be managed without its getting hoarse or fatigued, or without hopelessly losing it altogether, long before one's life is half through. I can now use my voice from early morning till late in the evening, either in singing, in teaching or in conversation; and, on account of my innate energy, I do nothing with the intention of saving myself, still my voice or my throat never feel tired, and in the last hour of my day's work my tones may even be clearer and rounder than in the morning. I cannot recollect when I have had a sore throat. Climatic influences will sometimes be the cause of taking cold, but, as my perfect system of breathing and breathing-gymnastics prevents it from becoming serious, it will pass away

easily without settling upon the lungs. But the greatest satisfaction I find is in the delightful results which my system of voice-production achieves in my pupils. The first steps of learning to breathe correctly and to develop and educate the breathing-muscles to the wonderful and mysterious work in tone-production, for which they are created, seem rather a slow process. As soon as a pupil has mastered the difficulties of gaining control over these muscles, and of keeping the throat so relaxed and free that the breathing-muscles can manage, without restraint, the movements of the larynx and the tension of the vocal ligaments, then the voice will at once show an incredible improvement. Voices that naturally or by habit sound shrill, wiry, tinny, reedy, throaty, hollow, veiled, husky, etc., can overcome these bad qualities completely by this system in a comparatively short time. Voices that have been ruined by overwork or bad teaching can positively be restored by it. Men or women with stooping shoulders, sunken chests, and hollow cheeks, can, in a few months, become straight, hold the shoulders back and have round chests and a healthy color in their faces. Clergymen, lawyers and teachers, who suffer with chronic sore throat, as the result of their unnatural voice-use, may learn in two months a perfectly natural method, acquire a pleasant and round voice, regain their health, and will never again tire of speaking. I own, however, that the system alone cannot do everything. I do not belong to that class of teachers who profess to be able to make a singer out of everybody. There are certain conditions required on the part of the pupil, namely, intelligence and freedom from natural and incurable impediments. But most of all, they need untiring application. If these points be answered favorably, I will guarantee complete success with my system, no matter what other difficulties may be in the way.

§ 6. *The Conclusion of this Chapter.*

Now, dear reader, have I not exhausted your patience by my talk about myself? Pardon me if I have. Voice-culture and the many and various experiences in that line upon which my life has turned, as far back as I can remember, is such an interesting subject to me

that I feel as if I could never stop talking about it when once fairly started. Considering, therefore, that I have forced myself to be much shorter in print than I would have been if engaged in conversation with you upon this subject, I am sure that you will be glad to get off so easily.

There is one point, however, which needs some explanation. I have probably given the impression, though without intending to do so, that I consider the study of physiology to be the only necessary qualification of a voice-trainer. No, I do not wish to say that a vocal teacher, in order to be successful, must always have the laryngoscope in his hand, and fill the pupil's mind with a legion of strange anatomical expressions that are without meaning to him. Everybody knows that at the present time a great deal is made of vocal physiology. No matter how little success a teacher has, if he makes a great display in advertising that his system is based upon the physiology of the voice, he may deceive the multitude. As a rule, such teachers contend that the old Italian school of singing is of so remote an age that we do not now know what it was. That is not so. Others, again, ridicule physiology and laryngoscopy, and contend that voice-production can be taught principally by imitation. I consider this question of such importance that I shall devote a chapter to its consideration.

CHAPTER III.

PHYSIOLOGY OR IMITATION?

Those voice-trainers who base their claims to the confidence of vocal students almost entirely upon their physiological knowledge appear to me like a natural curiosity. At the same time, I must confess, I am just as much dismayed by finding vocal teachers who ridicule the idea of the science of physiology forming part of the necessary outfit of a singing-master. Such assertions are, under certain circumstances, not at all surprising. But when a musician and teacher like F. H. Truhn, of Berlin, in his pamphlet "The Art of Singing," expresses himself in the following manner: "Mozart knew nothing of Chladni's and Helmholtz's researches; who needs, then, to study physiological analysis of the vocal organs to become a singer or a teacher of singing?" how shall we account for his sentiments! The great masters of the old Italian school were of the opposite opinion.

§ 7. *The Study of Physiology Indispensable to the Vocal Teacher.*

The renowned Italian singer, composer and musical writer, Giovanni A. Buontempi, who died before he could get a glimpse of the glorious era of the old Italian school, informs us in his "History of Music," from which Dr. Burney gives many and long abstracts, that at his time the daily study of the physical laws that govern the singer's tones was required of the pupils. The same is told by Arteaga of his times. J. F. Agricola, in his translation of Tosi's important work, gives, in the first chapter, a description in detail of the larynx and its functions. Dr. Marx, in his noteworthy book "The Art of Singing," in Section II., treats vocal physiology with such a thorough knowledge that we wonder how it was possible to

achieve such scientific results thirty years before Garcia first saw the vocal ligaments in operation in a living body. In our own days either too much or too little stress is laid upon this science.

The study of vocal physiology is surely a very essential duty of the singing-teacher; without it he cannot conscientiously be a vocal trainer. Would you trust a physician who you knew had not acquired the necessary knowledge of the mysteries of the human body? Why, then, should you pin your faith upon a voice-trainer who makes a boast of his ignorance of the natural laws that govern the vocal organs? These organs are the most delicate, vital and complicated parts of our body. Is it reasonable, then, to say, that a man can train them without knowing their natural conditions? No rational being can decline the advice given by Agricola in his translation of Tosi: "The knowledge of the vocal organs is always very useful to the singer, and especially to the teacher, and in many cases indispensable. For even when nature has endowed a singer with the best qualities, the knowledge of physiology is necessary to prevent all damages that might be done through ignorance. But when a teacher finds natural faults and defects in a voice, how can he successfully battle with them if he is unacquainted with the seat of the evil?"

Dr. Härtinger, an acknowledged authority in Germany on voice-culture, makes the following remark well worthy of notice: "As in all other arts and sciences man can only reach the truth and perfection by walking in those paths, along which he can follow the foot-prints of nature, so also in voice-training. If the student of the art of singing receives no insight into the mysterious workshop of his vocal organs, then he will not only make no advance in the cultivating of his voice, but, on the contrary, will positively distort it and lose all naturalness." This shows the fallacy of the common belief, that a man or a woman who is a great singer must necessarily on that account be the best teacher. If they have not studied the art of training voices, the first chapter of which must contain the science of the natural conditions of the vocal organs, they are unfit to train others, for the same reason that the best pianist — just because he has learned to play the piano — cannot be considered

to have also fitted himself to become a manufacturer of pianos. For this he would have to undergo much extra training.

Voice-training rests, in the first instance, upon correct muscular action, which the teacher must understand. How could he acquire this knowledge without the study of physiology? Next, a thorough examination must be made of the vocal organs of the pupil to find out what impediments are to be removed, what natural difficulties in each individual case are to be encountered. How helpless must a teacher be if he has never practiced laryngoscopy! Every voice-trainer ought to have gone through a regular course in a throat-hospital, or with a throat-physician.

§ 8. *Imitation or Cultivation by means of the Ear is also an Important Agency in Training Voices.*

Notwithstanding this advocacy of the study of physiology, I contend that it would be a great mistake to think, that the study of physiology and laryngoscopy alone will enable any one to become a voice-trainer or a singer. I will even assert that the knowledge of physiological laws alone, as a rule, will not enable the student to produce even a good tone. Physiological theories must go hand in hand with the musical ear or the law of imitation. All pupils rely more or less on the power of example. The teacher — as Ferd. Sieber advises — must imitate the wrong muscle-action and tone of his pupil as an illustration of the negative side, and afterward produce the right model — the good tone. Thus the pupil will be made to understand in the most practical and shortest way the physiological theories. Without this system of imitation judiciously used by an experienced teacher — without this teaching from ear to ear, and eye to eye, voice-culture cannot be successful. It is just as difficult or impossible to learn to sing good tones without hearing the teacher's pure model tone, as it is difficult or impossible to learn to speak without hearing.

This is exactly the point which the celebrated masters of the old Italian school maintained, and I cannot see how a rational being can take any other view — except on the ground that even rational beings are sometimes influenced by selfish motives. The most

vehement protesters against the old Italian school (and it must be noted that none of them have ever, to my knowledge, attacked the soundness of the method but, strangely enough and also falsely, have endeavored to show that nobody knows anything about it now) are those vocal teachers who use their knowledge of physiology either as a hobby or as an advertising dodge, or else have published a so-called method, and who wish, for their own sakes, that no one else shall know of anything better. Once in a while the attack comes from one who is both physiologist and author. There is no necessity of paying any attention to such spasmodic outbreaks of selfishness. Still, for the novelty of the case, I must refer to an author who not only asserts that his principles of voice-culture are grounded upon physiological science, but who has also published a "method," and, consequently, wishes to make every one believe that we know nothing about the old Italian method. He concentrates his argument in one grand finale — a questionable piece of sarcasm, by means of which he tries to demolish what he terms "the false notion" of the Italian method: "It seemed to me necessary that some one should try to show up the Italian method in its true guise,—that of a mere spectre haunting our pathway and hindering our progress, just as an apparition in Balaam's time made it impossible for him to get on with his journey even though he could not define its presence. And, by the way, that apparition furnishes a peculiarly appropriate type of a mystic vocal method; for, you will remember, it was successful in developing a voice where one was least looked for."

I shall not find fault with his trifling way of disposing of such an important question. I shall not even chide him for producing such a lame joke, because the questionable anachronism contained therein takes off all the edge. But I may be allowed to say that no teachers professing the principles of the old Italian school have ever shown such flighty enthusiasm as the author quoted assumes them to possess. However, no one will demur at my assertion that physiology alone is entirely unable to advance Balaam's ass or anybody else beyond his own physiological hee-haw. I firmly believe that the study of physiology without the sound principles of the old Italian

school will enable a man to become a successful butcher but not a trainer of voices.

The question, what does one need in order to become a singing-teacher, may be briefly answered: First, a thorough study of physiological science, at least as far as it pertains to the respiratory and vocal organs; secondly, as much as can be learned theoretically and practically of the principles of the old Italian masters and their successors, and of every one else; lastly, he must be a thorough musician, by nature and faithful application adapted to this difficult and responsible task.

But no matter how important the individual and personal teaching is, especially for elementary instruction in all branches of voice-culture, the student must, in time, become more and more independent, according to the degree of his natural talents and the progress he makes; and, when the time comes to leave his teacher and become his own master, he must not cease to work and study, for now the real work and learning begin. As teacher, at any rate, the singer will amount next to nothing, if he is not an arduous student. Still self-training in singing without the aid of the teacher's personal influence is impossible. Considered in this light, we must declare a certain new industrial branch called

§ 9. "*Singing-Lessons by Mail*" *an Unmitigated Humbug.*

Printed lessons published in book form, intended to teach piano-playing without a teacher, have been tried repeatedly without success. Such a procedure in voice-culture, however, has not been tried until now. Johann Adam Hiller, cantor of St. Thomas, in Leipzig, published, in 1778, a singing-method arranged in regular lessons, but not for the use of students without a teacher, but for teachers as a guide in instructing others. J. R. Weber, a worthy singing-teacher in Switzerland, published, in 1849, a theoretical and practical manual of singing, arranging his material into eighty-five lessons, each containing a certain portion of the elements of music, vocal exercises, and small songs. Of course, this was not intended for self-instruction, but as a class-book to be used under the personal guidance of the teacher. Self-instruction in singing,

or, as it is styled, "singing-lessons by mail," is a new enterprise. From the very nature of the voice, which, in every instance, must be taken as an individual voice, the training of it by mail is an impossible thing, and I really cannot see how any one can find enthusiasm or confidence enough to venture upon such a wholesale trade in vocal instruction.

I am aware that I have made a very sweeping and serious denunciation of this wholesale vocal manufacturing or turning out of singers by machinery. Why is it an unmitigated humbug? Because it throws upon the ignorant pupil that most difficult task of the singing-teacher — the diagnosis. This is full of responsibilities, a task that requires the teacher's closest attention, that appeals more than any other to his experience, knowledge, conscientiousness and especially to his ear. This is the one point in vocal training which, less than any other, can be settled by writing, and in which the teacher's own observation — seeing and hearing — is absolutely necessary. What would any honorable physician say of an oculist or of a throat-physician who advertised to treat patients by mail? Could they style such practice anything but swindling and criminal? There is the same ground for condemning vocal lessons by mail. Tone-production cannot be learned except by oral training of the best kind.

The reviewer of the very excellent little book "Advice to Singers by a Singer," in the London *Musical Times*, January, 1879, says: "We are very glad to see that the author of this treatise does not profess to issue a few pages of printed rules by which a student can teach himself to sing. Indeed, it must in justice be said, that, so far from this, he boldly tells his readers that it is utterly impossible to become a good vocalist without the aid of an experienced instructor." I believe that there is no opinion in which there is such general agreement among all singing-teachers as there is in this: That up to the present time a self-trained artistic singer is entirely unknown, and that no one can become an artistic singer without the aid of a teacher's personal instruction. As this is such a manifest and unmistakable truth, we need not waste more words about it.

§ 10. *Nationality no Criterion of a Teacher's Merit.*

Another strange and very absurd fancy, which a great many professional singers have, is the idea that the fact of one's belonging to a certain nation and country must needs make one especially fitted and apt as a teacher of singing. How often do we hear remarks like the following: "No one but an Italian is fit to be a singing-teacher!" A man with an Italian name (in reality or fiction) prefixed with a "Signor," can establish himself as a high-priced vocal teacher in this country, though he is sometimes only a moderate singer and musician, and still less a physiologist. If only he can master a few airs — especially those that the tailor, the gentlemen's furnishing-store, the barber and patent leather shoes furnish to him — and charge enormous prices, he may flourish for a while. It really seems as if some people cannot see and hear anything in a man but the clothes he wears or the horn he blows. Thus it happens that we can find the German Jew, the Turk, the Spaniard, the Englishman and the Yankee with an Italian name as Signor So-and-so — *maestro del bel canto* of the Italian school — successfully enjoying the generosity of the American people who, however, have been of late considerably shaken in the belief that no one but an Italian is fit to be a singing-teacher. Over one hundred years ago there was more cause for saying so; but times have changed. For a number of years our greatest singers neither have been Italians nor have they been trained by Italians. Even the silly custom — forced upon artists by popular prejudice — of assuming an Italian stage-name, is as good as abolished. Still I do not wish to convey the impression that Italy has no good singing-teachers or no good singers. There are some good Italian singing-teachers; but a great many better teachers can be found outside of Italy.

The field for the vocal charlatan is getting smaller from year to year. The signs are that before long only that teacher who can prove his ability by his pupils will be able to stand his ground. Not the one who advertises the most extensively, who dresses the most elegantly, who exceeds all the others in his charges, not even the one who sings the best or writes an acknowledged good book upon voice-

training — no! our people are becoming enlightened upon this subject. The teacher who is successful in eradicating bad habits, in producing clear voices, in improving the health and bearing in the greatest number of pupils — in a word, the teacher whose system educates young singers so that their appearance is a delight, so that their voices give pleasure, so that their whole style of singing is scientific and artistic — he may be sure of a brilliant career.

This seems to be the feeling among vocal teachers themselves. The fact that so many of them make, from time to time, what appears to be regularly organized invasions among reputable and successful teachers' best pupils is positive proof. The lack of principle displayed in such matters is incredible. I shall not publish particulars, still I may be permitted to acknowledge with thanks the great compliment paid me by more than half-a-dozen so-called "best teachers," by taking some of my most advanced pupils and, without further preparation, introducing them to audiences as their own "crack pupils." This is the best recommendation of my method. I do not seek other teachers' pupils; but, of course, I do not refuse them if they apply to me for instruction. But it is always some time before I can bring them out in the concerts of my advanced pupils.

§ 11. *Vocal Critics and Critical Vocalists.*

There is a proverb in Austria: "*Wer da baut an den Strassen, muss Jedermann davon reden lassen,*" which means that whoever builds on a public highway must expect people to talk about the structure. This is applicable to the author of a book. But it is not the author's fault if a critic, by adverse judgment, exposes the weakness of his own reasoning-power. In a method of voice-culture, where the whole progress is dependent on the development of certain muscles, a critic cannot arrive at a correct conclusion by a mental process alone; he is competent to utter a reliable opinion only if he has given the system a fair trial himself or has seen others who have accomplished what the system promises. One who reads a book and tries to do at once what the system advises must, of course, fail; but he has therefore no right to say: "That's all non-

sense!" Muscle-development is, under the most favorable circumstances, a slow process. This system needs a fair trial before you can judge of its merits.

I also wish to be understood in regard to the expressions used in explaining muscle-action. Some critics may find fault with me in this regard. My chief aim is to be practical, and to explain everything so that the pupil can understand me. If I had opened a physiological book and copied numerous foreign technical terms, expressions and sentences, I might gain, among the ignorant, the reputation of being very learned, but I should not gain my object, namely, to teach my pupils and to be understood by them.

I have also purposely omitted all physiological illustrations. Neither the throat, nor the respiratory organs, nor the resonance-chambers, nor the articulation-actions have been illustrated by wood-cuts. I leave these to the specialist. Moreover, there are many books with good illustrations, easy of access. The student can get from physiological specialists much more information than the regular vocalist can furnish, especially (as is usually the case) if he cannot handle a laryngoscope, or must go to a throat-specialist to have the pupil examined, and formulate his conclusions and drawings by an unsatisfactory second hand process. I recommend Dr. Lennox Browne and Emil Behnke's "Voice, Song and Speech." I know of no better and more thorough work with so many correct and original illustrations in the English language. Another commendable book upon this subject is Sir Morell Mackenzie's "The Hygiene of the Vocal Organs." Notwithstanding its title, the contents of about half the book turn upon the science of vocal physiology. It is true that Dr. Mackenzie differs in some things from the previously-mentioned authors, but no matter. It will be a long time before physiologists agree about the mysterious workings of the vocal organs. I assure my readers that they will gain valuable information from these books.

I have, in a general way, not much faith in drawings and illustrations of the throat, larynx, chest-box, ribs, etc. The breathing-gymnastics and the positions in which they are to be practiced, teach the practical method a great deal better and more clearly

than a whole library of anatomical wood-cuts. This is especially true of the larynx. For years I have studied the best illustrated works; and yet the first half-hour of practice with the laryngoscope gave me a better idea of the workings of the throat than all the years previously spent in studying wood-cuts and models.

PART II.

THE THEORY OF BREATHING.

The process of respiration has a threefold aspect. *First*, the lungs in human kind serve as an "excretory organ straining from the blood through a delicate layer of filtering tissue, as through a blotting-paper, a waste product called carbonic acid. As a *second* office, the lungs import into the blood through the same tissue, that great sweeper of the economy, oxygen, which is absorbed from the fresh air in the lungs into the blood, and thus introduced into all corners of the organism." * But we are not concerned here about the lungs as an eliminator of waste and a purifier of the blood. We take for granted that the air which we inhale is the germ of warmth and life, and when it is exhaled it comes out a deadly poison.

The *third* function of the lungs, as supplying air for voice, alone occupies our attention. The lungs are to us simply "two elastic bags, which contain a network of innumerable tubes and air-cells" † called capillaries; "in fact they contain millions of them, varying in the adult from one-seventieth to one two-hundredth of an inch in diameter." ‡ "We can form an idea of the immense number of air-cells in the lungs from the fact that if they were spread out over an unbroken surface, they would cover an area of fourteen thousand square feet." § "Each of these air-cells is lined with a very elastic tissue, which is greatly stretched when the lungs are full." ‖

These two bags, called *lungs*, serve as the reservoirs of air like two bellows in an organ, and in the same manner as these are worked, by a certain motor power, so is the air made to enter the lungs by

* Huxley's "Physiology," pp. 16, 17.
† Dr. L. Hermann's *Physiologie*, p. 157.
‡ Charles J. Plumptre's "King's College Lectures on Elocution."
§ A. Ciccolini's "Deep Breathing," p. 13.
‖ Huxley's "Physiology," p. 85.

the action of certain muscles. The important task before us is to learn through what muscle-action we can fill the lungs with air in the most satisfactory way in the act of inhaling, and how they must be worked in order to convert the air into the singing-voice during exhalation. In addition to this, we must also be taught the important art of educating these muscles up to the highest skill that is obtainable, by means of breathing-gymnastics. This brings us to the division of our subject:

1. *The Act of Inspiration.*
2. *The Act of Expiration in Singing.*
3. *The Act of Expiration in Speaking or Elocution.*
4. *The Breathing-Gymnastics.*

CHAPTER IV.

THE ACT OF INSPIRATION.

"The mechanical arrangements by which the respiratory movements are effected may be found in (*a*) the elasticity of the lungs, and (*b*) the mobility of the sides and bottom of the thoracic cavity in which the lungs are contained. The thorax may be regarded as a completely shut, conical box, with the small end turned upward, the back of the box being formed by the spinal column, the front by the breastbone"* (sternum), and on the sides by twelve pairs of ribs (in both the male and female). "The ribs have their origin on each side of the spinal column with movable joints. The seven upper ribs are united to the chest-bone with cartilages," the eighth, ninth and tenth are fastened with cartilages to its preceding rib, "and the last two pairs are called floating ribs," because they are free. "The spaces limited by the ribs are closed by two superficial muscular layers, the intercostal muscles. The base of the thorax is closed by a muscular partition, the diaphragm, which separates the chest-box from the abdominal cavity."†

"The two lungs occupy all the cavity of this box which is not taken up by the heart. Each half of the lungs is enclosed in a serous membrane, the pleura, a (very elastic) double bag, over the greater part of its extent, quite firmly adherent to the walls of the chest and the diaphragm, and also closely (air-tight) incasing the lungs."‡ "The air is made to enter the lungs by causing in them (through the action of certain muscles) an airless space on the same principle as a pump or syringe is filled, *i. e.*, by drawing the piston an

* Huxley's "Physiology," p. 84.
† Dr. G. J. Witkowski's "The Human Body" (translated by Dr. R. H. Semple), p. 15.
‡ Huxley's "Physiology," p. 84.

airless space is caused, and the fluid is forced into the pump by the pressure of the atmospheric air. The difference is only that in taking breath the airless space, or the expansion of the lungs, is accomplished by the so-called breathing-muscles, and thus the pressure of the atmosphere will cause the air to enter into the lungs." *

We must bear in mind two very important facts, namely, that in the act of inspiration the lungs need not occupy our attention, for they must always follow the motions of the thorax, but that everything depends upon the breathing-muscles, whose function it is to expand a part of, or the whole thorax, in order to create an airless space in the lungs, and force the air into them.

The next step is, of course, to examine the different methods of expanding the various parts of the chest-box and note in each case the result in regard to the amount of breath furnished, as well as the effort which is needed for it. *The system which would enable us to take the greatest amount of air into the lungs with the least effort must be declared the best.*

Dr. A. C. Neumann, in his thorough and comprehensive book, *Die Athmungskunst des Menschen* ("The Art of Breathing") mentions four methods of taking breath:

1. The clavicular or high breathing, often called high chest-breathing.
2. The costal or rib-breathing.
3. The diaphragm-breathing, and
4. The full diaphragm-breathing, which I should prefer to call "*the full breath with the combined breathing-muscles.*"

It is barely necessary to remark that the name of each of these systems indicates which part of the thorax is expanded in taking breath. We will consider them in the order above indicated.

§ 12. *Clavicular or High Chest-Breathing.*

This is the method of taking breath by expanding principally the upper chest. The whole abdomen is flattened and driven inward, which presses the viscera of the abdomen upward against the

* Dr. J. Henle's *Anatomie*, Vol. II., p. 232.

diaphragm, which, in consequence, has to ascend; or, in other words, the ribs are raised and the shoulders, with the shoulder-blades and collar-bones, are lifted up. Many singers, especially prima donnas, after they have thus taken the breath, draw the body forward and contract the chest, an abominable practice. This mode of taking breath is the worst that can be imagined.

Let us keep in mind that the chest-box is conical in shape, and its cavity, therefore, is smaller at the top than in the middle or at the bottom; its expansion is also smaller in the same proportion, and as the bottom of the thorax — the diaphragm — is raised in proportion as the collar-bones and shoulders are lifted, there is no possibility of making a vertical expansion. This naturally limited manner of expansion allows of but very inadequate capacity for furnishing air to the lungs.

Another difficulty, which ought to make collar-bone breathing unpopular, is the great effort that is needed for its accomplishment. There are two formidable obstacles in the way of a comfortable and easy expansion, or rather lifting-up of the upper chest, namely, the collar-bones and the shoulder-blades. "The collar-bone is fastened upon the chest-bone just above the first rib; it crosses the first rib near its end in front and connects with the highest part of the upper arm-bone and the shoulder-blades. The latter is a broad, three-cornered bone on each side of the back, the smallest side of the triangle leaning against the space between the first and second ribs, the lowest point extending to the seventh rib or the space between the seventh and eighth ribs." * It is evident from the very nature of the case that the expansion of the upper chest, if it has to be done by the lifting of such formidable, bony obstructions, must require considerable effort.

Furthermore, we notice that as the cavity of the chest-box is conical in shape and therefore smallest at its upper end, so also are the lungs conical at their two upper points, and there is not as much room for air in the points of the lungs as in the centre or in the lower parts.

Of all methods of breathing, the clavicular or high breathing fur-

* Dr. J. Henle's *Anatomie*, Vol. I.

nishes the smallest amount of air with the greatest effort. In all business transactions a sensible man would quickly reject an arrangement by which he would make the least money with the greatest outlay of labor. Why not apply the same practical principle in the workshop of your body? But there are other reasons why we must reject clavicular breathing:

(*a*) The comparatively small amount of air that is furnished by this system necessitates a frequent repetition of this unnatural effort, which is, of course, very fatiguing.

(*b*) It involves a somewhat stiff or fixed position of the larynx, which causes an unmusical and harsh tone, and makes truly expressive singing impossible.

(*c*) It neutralizes to a considerable extent the management of the correct tension of the vocal cords, and, consequently, the control of the voice. A singer accustomed to clavicular breathing must strain the tender muscles of the larynx and throat unnaturally, especially in loud singing, which strain very few singers can long endure. Inflammation of the larynx and pharynx, chronic hoarseness and loss of voice, are frequent outgrowths of this method of breathing. The proverbial "clergyman's sore throat" is nearly always brought on by collar-bone breathing and the straining of the larynx-muscles, etc., which it induces. As a rule, this difficulty is aggravated by the position which a clergyman or any one who reads aloud from a manuscript necessarily takes — head bent down. This hinders the breathing-muscles, as well as the throat, in the natural exercise of their functions. Still, to say that this position is invariably the sole cause of the trouble is a clear misunderstanding of the case.

(*d*) I have also found that the grating habit of singing sharp is often induced by clavicular breathing. Furthermore, it is the not infrequent cause of breaks and cracks in the highest tones of the voice.

(*e*) With clavicular breathing it is very awkward and unsatisfactory to inhale the air through the nostrils. A singer addicted to collar-bone breathing exposes himself to all of the bad consequences of mouth-breathing, of which more will be learned in the proper place.

(*f*) With this system, breath must be taken with great violence through the mouth, when only a short time is allotted for the renewing of the air. This causes a very disagreeable, asthmatical panting or wheezing, and the most renowned artists make thus a painful impression upon an audience.

(*g*) As soon as the breath is taken with this method, and the first tone produced, the chest must commence at once to relax, which interferes with the firm resonance of the air-column in the windpipe and impairs the solidity of the tone.

(*h*) The greatest objection that can be raised against collar-bone breathing is: It involves muscles that do not belong to the class of breathing-muscles at all, and that contribute little or nothing to the expansion of the chest. Dr. J. Henle, the greatest explorer of the human body, calls particular attention to this point in speaking of those surface muscles of the chest and back that are employed in lifting the weight of the body. "The best argument that these muscles have rather the function of raising the weight of the body than of helping in the action of inspiration, presents itself in the fact that any one suspended by his arms has no more difficulty in inhaling or exhaling than when standing on the floor. The fact is, these muscles are arranged as unfavorably as is possible for any assistance in breathing. Their fibres run either parallel with the ribs, which they ought to lift, or they ascend in such a manner that they would rather depress the ribs," which increases, of course, the laboriousness of this method of breathing, not taking into consideration the entirely superfluous work of lifting the collar-bones, shoulders and shoulder-blades by an extra effort of a distinct group of muscles.

In order to convince yourself of this, try the following experiment: Stand perfectly straight, the arms hanging down at the sides of the body. Without attempting to inhale or hold the breath, suddenly lift the shoulders and the collar-bones, and you will find that no air enters your lungs. But as soon as you set the intercostal muscles to work to expand the upper chest, you will feel the air at once entering the lungs. Is this not sufficient proof that the raising of the clavicles and shoulder-blades with an extra effort is altogether superfluous in breath[illegible], and an immense waste of strength?

I wish to emphasize particularly that I do not see any objection to the expanding of the upper chest for taking breath in singing. No! On the contrary, I consider it very important and necessary. Still, the expansion of the upper chest alone is not enough. I, however, protest against having it done in such an outrageous way that it will spoil the best part of your singing, injure your voice and your throat, and yet you gain absolutely nothing by it, and know at the same time that the hardest part of your work is needless and harmful.

§ 13. *Costal or Rib-Breathing.*

Dr. C. L. Merkel * describes this system in the following way: "In costal breathing the diaphragm is extended, and, in consequence, the abdomen is drawn in." We shall become acquainted soon with a physiological law, that the contraction of the diaphragm causes this same muscle to descend, and the wall of the abdomen to move outward; but when the diaphragm is extended, as is done in purely rib-breathing, its arch is pushed upward, and, at the same time, the retiring wall of the abdomen presses the viscera against the diaphragm and the outer abdominal wall is flattened. The ribs are raised by the intercostal muscles, and the chest-box is expanded considerably more by this method than was possible with clavicular breathing. Neither has rib-breathing the objectionable features of the preceding method, and this is probably the reason why Gustav Engel † recommends it to singers, though I hope that no one will follow his advice in this matter. Dr. Merkel seems to prefer it to the quick or short breath, but says that he was not able to take as much breath by this method when he took the air in slowly. Take it all in all, we cannot declare ourselves satisfied with less as long as we can do better. What this "better" method is, we shall find out in due time.

§ 14. *Diaphragm-Breathing.*

"The diaphragm is the great muscle that serves as a partition between the chest-box and the abdomen. It is always — when in a

* Dr. C. L. Merkel's *Der Kehlkopf*, p 261.
† Mendel's "Musical Cyclopædia," Vol. I., p. 334.

state of rest — concave to the abdomen and convex to the chest-box." * We are already familiar with the fact, that when the diaphragm is contracted it descends, *i. e.*, the upper, convex part is pressed down and at least the three lower ribs are pushed outward a little by the intercostal muscles, and held firmly by a muscle antagonistic to the diaphragm. By the descent of the diaphragm the internal organs of the abdomen are crammed downward, and, in consequence, the yielding wall of the abdomen is pushed forward.

By this method, the expansion of the thorax is made with considerably less effort than in the two preceding ones, as all the parts that are to be expanded are naturally more flexible and yielding. But it is disputed among physiologists whether one can inhale more air by purely diaphragm or by costal breathing. I, myself, think it of little importance which way the decision falls, for I consider them both inadequate for a full breath. For the ordinary process of respiration, diaphragm-breathing is acknowledged by all authorities to be the best.

The fact which must prejudice a thinking mind against any of these three methods of breathing is this: That in not one of them are the whole lungs filled with air; but only a part of them. In clavicular breathing it is the upper part and a portion of the central lungs; in costal breathing it is the central and upper parts; in diaphragm-breathing it is principally the lower and a part of the central lungs, that are filled with air. It is evident that by such imperfect methods we can never inhale a sufficient quantity of air to sing in one breath a great number of full tones, or even ordinary musical phrases. We need not mention that it is unhealthy to breathe habitually with a one-sided method, for it excludes one part of the lungs from a healthy activity, and deprives it of the necessary ventilation; the elasticity of the air-cells will be diminished in the course of time; they will shrivel, and serious pulmonary troubles are bound to follow sooner or later. The more we think of it, the more urgent the question seems to become: Is there no way of filling the whole lungs with air in one breath?

The mistake which has led so many astray in this all-important

* Huxley's "Physiology," p. 88.

question of breathing, is that physiologists, in order to theoretically treat this subject, have divided the respiratory apparatus into three distinctly separate muscle-actions, and have even admitted muscles that do not belong to the breathing-apparatus at all, as in clavicular breathing. If we study nature unbiased by habit, prejudice or science, we shall find that nature knows but one breathing-apparatus. All the muscles pertaining to it must act together, and the only distinction that can be made is the amount of the total expansion of the thorax with all the breathing-muscles in combined action, and not that of distinct sets of breathing-muscles. This is the only correct method of taking breath, and we shall now study its particulars.

§ 15. *Take Breath with the Combined Breathing-Muscles,—the Full Breath.*

The fundamental work is done by the diaphragm, whose action we have already learned, but which will soon receive further consideration.

In regard to the muscles of the chest or thorax, and exactly in what way they take part in the full expansion of the thoracic cavity in the act of taking breath, there is yet considerable dispute among physiologists, and this, like many other mysteries of our body, is far from being cleared up. For our purposes this need not disturb us. Neither shall I burden the reader with the unnecessary work of battling through unintelligible technical names of these breathing-muscles, as it would not help him to find them in his own body. Dr. A. C. Neumann remarks very much to the point: "If you wish to find and define these muscles, you must, before all things, consider that the word 'muscle' must never be taken in the sense of the anatomist as a piece of flesh dissected and prepared from a corpse, but as a group of muscle-fibres, which may follow more or less the anatomical analysis of muscles."*

In describing the manner of taking a full breath with the combined breathing-muscles, we may follow with the greatest confidence the opinion of Dr. J. Henle, the celebrated professor of anatomy at the University of Göttingen, not so much because he stands fore-

* Dr. A. C. Neumann's *Die Athmungskunst des Menschen*, p. 14.

most in Europe among scientific and learned authorities in matters anatomical and physiological, but because his theory seems to correspond with practical observations in breathing, and his description of the muscle-actions of all breathing-muscles combined, come nearest to the ideal of the singer's full breath and full chest.

Dr. Henle calls attention to the important fact, that the joints of the middle ribs are stiffer than those of the others, and that these same middle ribs remain less flexible in full (diaphragmatic) breathing; whilst the highest rib is lifted, the lowest rib is drawn down, and each of the two in its own direction is followed by the nearest ones in the same movement. "The fact is," says Dr. Henle, "that a firm position of the lower ribs is necessary if the process of inspiration is to gain all the advantage from the contraction of the diaphragm; otherwise this muscle would pull the lower ribs—on which it originates — inward. It is, therefore, necessary that another antagonistic muscle should hold them firm," * while the intercostal muscles push them outward.

We must notice the following points in this most complete method of breathing by the combined breathing-muscles:

(*a*) The diaphragm is contracted and descends at first, and the abdominal walls extend outward as far as they do in what is called purely diaphragm-breathing.

(*b*) The lower ribs are drawn down by the diaphragm, held firm by its antagonistic muscle and forced outward by the intercostal muscles, which enlarges the middle chest-cavity a great deal more than is possible by costal or rib-breathing.

(*c*) The intercostal muscles lift the upper six or seven ribs and also force them outward, which causes as large an expansion of the chest as is possible by the clavicular method.

(*d*) In order to expand the chest-box as much as possible, the lower part of the abdominal region must, at the final action, be slightly drawn in, which not only gives the lungs a greatly needed support, but is especially useful for preparing the lower abdominal

* Dr. J. Henle's *Anatomie*, Vol. I. *Dritte Abtheilung, Die Muskellehre*. The first edition of this third part was published in 1858. The first part of Vol. I. came out in 1855.

muscles for the important work which they have to perform in exhalation, during singing and speaking.

(*e*) Finally, we must notice that the collar-bones are raised a little in an involuntary and passive way, and not by a powerful effort of a separate group of muscles. The ribs, as they are raised by the intercostal muscles, push up the collar-bones.

I must not be understood as advocating high-chest or clavicular breathing, for I mean just the reverse. The principal features of high breathing — the violent drawing in of the abdomen at the beginning and the raising of the shoulders — are not permitted. I point out distinctly, once more, that the shoulders must not be raised, but only turned slightly backward. The muscles that raise the shoulders and shoulder-blades must, under no circumstances, be actively engaged in taking breath. Every movement they make must be a passive one. Also, the drawing in of the lower part of the abdominal walls must not be confounded with the method of high-chest breathing, in which the whole abdomen, including the diaphragm-region, is completely drawn in and flattened from the beginning. In my method of taking a full breath the whole abdomen is first expanded, and only at the last moment, just as the first rib pushes the collar-bone up a little, the lower part of the abdominal wall is slightly drawn in, while the rest of the abdomen remains expanded as in purely diaphragmatic breathing.

By this method we accomplish what we aimed at in the beginning: to learn to inhale the greatest possible quantity of air with the least outlay of labor, comparatively speaking.

§ 16. *Can a Woman Accustom Herself to this Full Diaphragmatic Breath-taking?*

About twelve years ago I delivered a series of lectures before a society interested in breathing and singing. I gave frequent opportunities for questions. Though it seems almost incredible, yet, one evening, a physician rose and asked if I believed that a woman could breathe with her diaphragm. I answered decidedly in the affirmative. To this he retorted that I was altogether wrong, and that he could prove it; but he would not like to do so there owing

to the presence of young ladies. I remarked that no student of anatomy could come to such a conclusion except one whose observations had been made only upon a living female wearing very tightly-laced corsets. He told me afterward that he referred to enciente women. But even under those circumstances his opinion was erroneous. I could give him the names of several married women who have taken lessons in breathing and breathing-gymnastics at such times in order to make the muscles more flexible. Even outside of these cases one sometimes hears the foolish assertion that woman cannot breathe with the diaphragm. One thing is certain — I believe no one has ever denied it — that woman has a diaphragm as good and as proportionately strong as that of a man. Why, then, should woman not use the diaphragm for breathing?

Some so-called physiologists and vocal teachers make the distinction between the sexes in breathing that man breathes more with the diaphragm, while woman uses rib-breathing. I have never yet met the argument that woman by nature cannot breathe with the diaphragm, but that she is simply prevented from doing so by the unnatural mode of dressing prevalent, namely, that of tight-fitting dresses, and that deadly curse of civilization — the tight-laced corset. If it were not for this, nobody would ever have dreamed of such a distinction between the sexes in regard to breathing.

But after a woman has once acquired the habit of breathing with a wrong method, can she learn full diaphragmatic breathing? Yes, with very little trouble. Breathing-gymnastics will accomplish it in an astonishingly short time. But, of course, the corset must give way to sensible dressing, at least while she is learning to breathe correctly, and tight lacing must be abolished forever. I believe that it is the experience of every teacher, who uses the correct method of breathing, that it is more difficult to convince a woman of the necessity for breathing-reform than to teach her the correct method of breathing.

§ 17. *The Vagueness of Physiological Terms the Cause of Confusion in Determining the Method of Breathing.*

The medical profession has, at all times and everywhere, pronounced against collar-bone breathing; the dissenting voices are

few and of but little weight. How can it be explained that in the face of such overwhelming evidence, based not on speculation but on stern physiological facts and experience, how can it be explained, I ask, that we find among vocalists (and I refer to a number whose standing in the profession ought to make their opinion worthy of notice) those who advocate collar-bone breathing? This is the more puzzling, because I have never yet heard this peculiar preference based or defended on physiological grounds, nor the opposite opinion rejected by valid arguments. I am inclined to think that this unnatural state of affairs is caused not by ignorance of physiological facts on the part of singing-masters and singers, but rather by the confusion of physiological terms and the uncertainty of their meaning, which, in many cases, may find support in prejudice and habit—the most obstinate enemies of truth.

The advantages of a full chest, fully expanded in taking breath, are proverbial among vocalists; and I am not behind any one in appreciating its importance. The more closely the laws of vocal acoustics are observed, the more reasons are found for developing a voluminous chest and for acquiring skill in keeping the upper chest-wall (as far as is possible without causing distress) firm to the end of the breath in singing, in order that the windpipe, which is the resonance-box of all chest-tones, may be supported by a solid wall. I suppose the preference of some teachers for collar-bone breathing is based on the fact that the clavicle must be raised a little in order to make room for the full expansion of the whole chest. To this I agree; but I question the wisdom of accomplishing it by laborious effort, especially when by it the expansion of the lower half of the chest-box is partially prevented. We must look at this method of breathing as altogether senseless, because the collar-bone can be raised sufficiently without any extra effort, simply as the natural consequence of the raising of the ribs by the action of the intercostal muscles, as has been amply proved.

Any one can convince himself of this by the following experiment: Stand straight, with hands clasped on the small of the back; take a full breath energetically, as it has been described, and be sure that not only the abdominal walls are pushed forward by the con-

traction of the diaphragm, but particularly that the upper chest is well expanded and, simultaneously, the lower part of the abdomen slightly drawn in. Do not lift the shoulders, but turn them slightly backward. Careful observation will reveal the fact that the collar-bone has been raised a little. How was it done? Let us consider that the clavicle crosses the first rib near its end on either side of the breast-bone. By taking a full breath the upper ribs are raised by the intercostal muscles and the first rib is of necessity pushed against the collar-bone, which, in consequence, is forced upward a little, whether you intended to do so or not. This pushing up of the clavicular bone is an involuntary act, and no special muscle has done it.

I believe that this passive ascending of the clavicle in full breath has been misunderstood by some as clavicular breathing; and what is often so passionately defended as clavicular or collar-bone breathing, if the fact were known, is nothing but a full breath. The following circumstances have led me to think so: Clavicular breathing is often and erroneously called chest-breathing. The term chest means, of course, the whole chest and not merely the upper part of it; therefore, one acquainted with the meaning of physiological terms would identify chest-breathing with the full breath rather than with the clavicular method, by which the upper chest only is expanded and the lower ribs are drawn in. Costal breathing, as an instance of this confusing of physiological facts, is often described as a movement of the "sides of the chest," understanding them as left and right side. The "sides of the chest" is a physiological term that means the whole circumference or the entire walls of the chest, in contrast to the bottom or top of it. We need not add that this misunderstanding gives an entirely wrong impression of costal breathing. Other vocalists, again, do not mention costal breathing at all, but distinguish only between diaphragmatic and clavicular breathing or, as it is more often called, the deep and the high breathing, which leads me to think that a portion of the vocal profession does not draw a line between costal and collar-bone breathing, but treats them as identical. This lack of precision in the meaning of physiological terms is not confined to the vocal profession; physiologists

also are guilty of it in regard to diaphragm-breathing, and I believe that this has been the main cause of establishing among vocalists the erroneous notion about clavicular breathing. The foremost authorities in the medical profession recommend diaphragm-breathing as the only correct and healthy method of taking breath in singing. The explanation given of it, however, and especially the wood-cuts representing the outlines of the body in both male and female, showing how the chest-box is expanded in what they term "diaphragm-breathing," prove conclusively that they mean the method of taking breath with the combined breathing-muscle action as just described, *i. e.*, diaphragm and chest-breathing combined, with the exclusion of the voluntary raising of the collar-bone, which, as the lines present it, is simply pushed up by the first rib.

The medical authorities referred to are: Dr. Lennox Browne's "Medical Hints on the Production and Management of the Singing-Voice;" Dr. F. Techmer's *Phonetik;* Dr. L. Mandl's "Hygiene of the Voice;" Dr. Whitfield Ward's "The Throat in its Relations to Singing;" Dr. R. T. Trall's "The Human Voice." More distinctly are the lines drawn in Dr. J. Solis Cohen's commendable little book, "The Throat and the Voice." Dr. G. J. Witkowski, and Dr. J. Henle, in his *Anatomie*, do not mention a word about different methods of breathing. This is a very significant fact. To them there are no methods of taking breath; to them breathing is to take breath, and that means to expand the chest-box in all its dimensions by the agency of those muscle-groups that can draw the whole lung-bag after them, namely, the diaphragm and the intercostal muscles.

Dr. Paul Niemeyer furnishes, probably, the most striking illustration of the vagueness of physiological terms. In the first edition of his book *Die Lunge* ("The Lungs") he advocated deep or purely diaphragmatic breathing. In the meantime he met the Turnlehrer Lohmüller in Cologne, who convinced him that high breathing was the only salvation for man. But what is Herr Lohmüller's method? From his most important breathing-exercise, as described in the third edition of Dr. Niemeyer's book, we come to the conclusion that the method to which the doctor was converted is the one which is advocated by myself; namely, the combined action of the breathing-

muscles. Still, in the second and third editions of his book, Dr. Niemeyer calls it clavicular or high breathing.

Dr. Franz Bicking advocates the same method in his praiseworthy book *Die Gymnastik des Athmens* ("Breathing-Gymnastics"). Yet in his anxiety lest he should impart the idea that he meant only diaphragmatic breathing and not the expansion of the upper chest also, he might lead a superficial reader to believe that he pleaded for the clavicular method, which he does not.

These are the reasons which lead me to think that clavicular breathing would have in reality very few adherents and defenders in the profession if physiological terms were correctly understood and applied. The prima donnas and all the female and male singers, to whom vanity is more than a good voice and health, will do many and more foolish things than lace so tightly that they are compelled to take breath violently by the clavicular method. But, of course, this proves nothing against science and good sense.

§ 18. *Take Breath through the Nostrils.*

Hitherto we have not mentioned any of the contents of the chest-box other than the lungs. There was no need to enter into any discussion about the heart, for if we use the most natural method of breathing with the combined breathing-muscle action, the heart can never suffer from violent jerks and spasms as it might in clavicular breathing. Our whole attention has been occupied with the most perfect expansion of the lungs, and we have not even mentioned another occupant of the chest-box, "the respiratory tree," as Dr. Witkowski calls the windpipe and its branches. As far as it is situated in the thoracic cavity in connection with the bronchial tubes, its functions in the respiratory apparatus are altogether automatic and involuntary. We leave them, therefore, to the physiologist. Outside the chest-box the highest part of the windpipe is the larynx and the highest part of the larynx is the vocal cords, which form the entrance into the windpipe as well as the exit from the windpipe into the pharynx. The pharynx leads into two channels, the mouth and the nasal tubes. The breath can be taken through either, and it is a very important question whether it is immaterial which way we breathe.

Does nature give no indication through which of the two channels she intended man should breathe? In our whole economy we notice that a wise Providence has set guards to all ways of communications from the outer world to the interior body, to keep us from being harmed. Look, for instance, at the ear; in what an ingenious manner it is constructed for transmitting sound! Yet, in that same design the most careful measures are provided for its protection. The eye gives evidence of the same wonderful designer. But in the whole length and breadth of the channel through the mouth, pharynx or windpipe, are any provisions made to sift the air from foreign matter as dust and all kinds of impurities, with which the air is charged, especially on windy days? Nowhere, from the lips to the lowest end of the lungs, can we find the slightest attempt or disposition to prevent whatever dirt or other poisonous matter the air may be charged with from entering through the mouth and pharynx into the windpipe, and the lungs and the respiratory organs are left unprotected against all possible dangers and diseases!

Can the temperature of the air, as inhaled through the open mouth, harm the respiratory organs? Certainly. It is an undisputed fact that inflammation of the pharynx or of the larynx is often caused by inhaling cold air through the mouth, and the danger is doubled when it is done during singing. Ask a person who has been breathing all night long through the mouth how he feels in the morning. He has a parched mouth and throat, nausea, headache, etc. Are not these unmistakable signs that he has used the most healthful function of his organism in an unnatural and wrong way? Can you believe that the infinitely wise Creator would have arranged in such a shiftless way the channels through which we ought to breathe the breath of life, that they must of necessity serve as the very importers and doors of sickness and death? Impossible! It is only man's ignorance that turns the greatest blessing into destruction.

In the functions of the alimentary channel the windpipe and lungs are well protected. The mouth, as everybody knows, is not only used as the resonance-cavity and the seat of the organs of articulate language, but it contains also the sense of taste and the instruments of mastication. The pharynx is not the channel for air only, but

also for food. There is a guard placed before the entrance to the windpipe called the epiglottis, which, like a trap, shuts itself instantaneously and instinctively over that entrance the instant that, in the act of swallowing, it is approached by particles of food. In taking breath an arrangement is needed somewhere in the respiratory organs to sift and free the air from all foreign matter contained in it, and to warm it if it be too cold. In the mouth or pharynx we see no such arrangement, but the nostrils are exactly fitted for this service. They consist of two narrow, tortuous channels, covered with bristly hairs which act as filter or sieve to arrest the impurities, such as dust, etc., which the air may contain. These are thrown out again, either by the returning breath itself or by sneezing or blowing the nose. The second important office that the nostrils fill, is the warming of the air. In the long, narrow and winding channels of the nostrils all particles of the air, as soon as they touch the blood-warm surface of the mucous membranes, and before they reach the pharynx, become warm; or, if the outer atmosphere be very cold, they are at least sufficiently modified during the passage through the nostrils so that they will do no harm. Thus breathing through the nostrils is a safeguard against many pulmonary, bronchial and laryngeal troubles.

This is a very important subject, as the hygiene of the voice depends largely upon the correct observance of the laws of taking breath. I regret that the limits of these pages do not permit a full treatment of it. I recommend two books to be read and re-read not only by singers and public speakers, but by parents and educators of children. One is by Dr. Clinton Wagner, of New York, and is called "Habitual Mouth Breathing;" the other bears the significant title "Shut Your Mouth," and is by George Catlin, the great English traveler. Be sure to read them attentively.

Besides these important sanitary reasons, the singer or speaker has another reason for taking breath through the nostrils: He can fill his lungs more completely than by taking it through the mouth.

It is hardly necessary to call attention to the fact that breathing through the nostrils, if not properly done, may cause a very disagreeable noise. Some years ago, a writer in *Werner's Voice Magazine* said that breathing through the nostrils must be avoided by

singers (I suppose he meant to include speakers also), because it could not be done without making a disagreeable noise! Is that so? No; indeed not. Everybody can easily learn to take a full breath energetically through the nostrils without making the slightest noise. The truth is, that nobody can take a full breath energetically through the mouth without making a most distressing noise; and, if breathing through the nostrils had no other advantage, it would be far preferable to taking the breath through the mouth on account of the genteel and quiet way in which it can be performed. The critic just referred to apparently knew no difference between sniffing and breathing, between smelling and taking breath for voice-use. In the sniffing and smelling process we contract the nostrils; in taking a full breath we dilate them as widely as possible, thus breathing inaudibly as well as almost invisibly. Of this, more will be said in Section 21 in considering the short or quick breath.

§ 19. *Obstructed Nostrils.*

Why do the nostrils close; how do they become obstructed? You will probably answer: By taking cold, or by catarrhal affections. Sometimes this may be the cause; but, as a rule, the nostrils become blocked by breathing through the mouth. If we seek, therefore, for the best means of avoiding this trouble the answer is: Establish the habit of breathing through the nostrils, and they will always keep open. But suppose the nostrils are already obstructed; what is to be done? Open them! How? Go to the open window. If it is cold outside protect yourself well; press a finger against the side of the nose that is the most tightly closed and draw or sniff the air forcibly in and out through the opening of the other side. Then do the same on the side that is most obstructed. Change from one side to the other till you succeed in clearing both passages. This remedy will have the desired effect in ordinary cases.

If the trouble is of a more serious nature, however, if one or both nostrils are stopped up by crusted layers of catarrhal secretions, the advice given above may fail to free the nasal passages. In such cases, apply carbolated vaseline on cotton, securely fastened by a screw to one end of a bent wire, such as is used by those throat-

physicians who have discarded brushes as hurtful and dangerous for making applications to the vocal ligaments. The carbolated vaseline should be inserted as far up and back of the nostrils as possible. But as very few persons have such an instrument, I give a simpler method: Lie flat on the back; put some carbolated vaseline on a finger of the right hand, if the right nostril is blocked; hold one finger of the left hand upon the left nostril so that no air can pass through it. Put the vaseline into the right nostril and sniff it up powerfully; let the breath out through the mouth and sniff up again very powerfully. Repeat this and apply more vaseline till you succeed in getting air through the nostril. Then reverse the process to open the other nostril. It is also helpful to rub the bridge of the nose and its immediate surroundings with vaseline. This remedy rarely fails. Suppose it does fail, what shall be done then? Do you expect me to say, go to a throat-specialist and let him attend to your case? All right; go if you wish to. But I mean, what method of breathing shall you use in case the air-passage through both nostrils is so impeded that you cannot breathe through them, nor open them? In such extreme cases it is necessary to breathe through the mouth. In order to render it as safe as possible, draw the breath through a small opening of the lips, and keep the tongue firmly pressed against the gums of the upper teeth, so that the small stream of air can strike on it and get warmed by the time it touches the mucous membrane of the pharynx and larynx.

How can one avoid mouth-breathing during sleep? The surest way is to tie a ribbon or a handkerchief under the chin and around the head before going to bed. During the day, be very careful to breathe through the nostrils, for habits acquired in daily life are not apt to be forgotten during sleep. Before going to sleep make up your mind to keep the mouth shut tightly. A firm will and perseverance will lead to success.

§ 20. *The Regular Process of Respiration outside of Singing and Speaking.*

Health and good spirits are very important items to a singer and speaker. As both depend, in great measure, upon correct habits

of breathing, I believe it will not be out of place in these pages to take passing notice of the ordinary process of respiration. I may be justly accused of having made many repetitions; still I think not unnecessary ones, considering the importance of the subject. I repeat, therefore, what has just been stated, that the first and invariable rule for regular habits of breathing must be: Always take breath through the nostrils.

The object of this paragraph is to learn what breathing-muscles should be used for the act of ordinary breathing. We meet here, as before, the old trouble of the distinctions made in regard to separate sets of muscles for different acts of breathing. This is sometimes defended on the ground that the muscles get tired by the uninterrupted pumping of air, therefore it seems natural to divide them into several gangs and let one gang work at a time so that the other sets of workmen, or rather working muscles, can rest in the meantime. This is a very crude way of philosophizing. The continual renewing of breath is the first work and condition of life from the first to the last glimmer of light that a human being sees.

It was necessary that the muscles constituting the breathing-apparatus should be so fashioned by the Creator and so arranged as to be able to stand this incessant work without the need of much rest. This notion of a gang-system in breathing or of separate sets of muscles in order to take off one for rest while another is put on to work, will never accomplish the object it has in view; in fact, it will prove itself the most fatiguing manner of breathing. This is the experience of every-day life. If a person keeps his body in such a position that he is compelled to breathe, as it were, with one set of breathing-muscles only, he will before long feel obliged to give his lungs a rest; but how — by engaging another set of muscles? No! But by raising himself and putting them all at work at once. This means taking a full breath and thus getting relief for his whole system through a plentiful supply of oxygen. Your drowsiness, your headaches, your languid feeling are caused by your imperfect breathing; much of the carbonic poison returns at every breath to your veins, instead of bringing the requisite quantity of oxygen to the blood. Sometimes nature forces you,

against your will, to take a full breath. How? By that instinct which causes you to yawn.

This talk about the incessant and fatiguing work of the breathing-muscles and about their never getting any rest is, to say the least, moonshine. It is just this one-sided, imperfect way of breathing that is hurtful; but it does not hurt the breathing-muscles,—it tires you, the whole body, especially your digestive organs; your head, your brain, your blood suffers. The least fatiguing and healthiest mode of breathing—and I refer to the ordinary process of respiration—is to always take the breath with the whole breathing-apparatus. The method, how to do it, will be explained later. I wish now simply to convince you that you need not fear tiring the breathing-muscles in ordinary breathing; in spite of their incessant work they get all the rest they need.

We must keep in mind that the actual working time of the breathing-muscles is only in the act of inhaling—the exhaling is relaxation and not work. Exhaling means rest for all the breathing-muscles. Moreover, a healthy person does not renew the breath in the quick succession that a dog does on a sultry August day, but after each exhalation there is a little pause for rest. During sleep these pauses are much longer than in the wakeful state, and we come to the conclusion that the breathing-muscles, take it all in all, have more than half a life-time for rest, which is a sufficient allowance.

Hence we need not hesitate to lay down the following rule for ordinary breathing: Take breath with the combined muscle-action of the respiratory apparatus, which consists of the diaphragm and the intercostal muscles as the principal actors. This, of course, does not mean that a full breath should always be taken; for if the breathing-muscles act together at each renewal of the breath in an easy and comfortable way, the lungs will be properly ventilated; and the elasticity of the lungs will be kept unimpaired if now and then a full breath is taken.

We consider, therefore, the respiratory process as the undivided and inseparably combined action of the breathing-muscles, which admits of only one distinction, namely, that of the degree of energy or force which is exercised to expand the chest-box evenly in all its

dimensions. This degree of expanding the chest is the measure of filling the lungs at each renewal of breath. The lungs are the gauger for the whole system. If the brain is tired and refuses to work, increase at once the activity of the lungs. The increased amount of oxygen which is thus carried through the blood to the brain will soon show its healthy influence. If the will-power and energy are relaxed, increase the number as well as the fulness of the inspirations; you will soon feel a wonderful change.

The Habit of Stooping Causes Dulness of the Brain, and Impoverishes the Blood.—I would call the attention of clergymen, lawyers and students in general to this important subject. You have been sitting for an hour, unnaturally stooping over your desk. Your breathing has been very imperfect all this time. Your work begins to drag; your thoughts do not come readily; your brain refuses to work. You put both elbows on the table, shut your eyes, bury your forehead in your hands and stoop still lower. There is no light upon your argument. Now, my friend, do not you notice that your room is poorly ventilated and that your breathing is insufficient? For a whole hour you have not had enough fuel for your brain; this is the reason of your brain's failure. Get up, open the windows, take a full breath several times in succession and blow it out in the way which, in Section 33, is described as the second breathing-gymnastic, and, returning to your desk, sit up straight, always take a good breath, and you will find that you can write your sermon or your brief in half the time that it would take if you stoop over your desk and breathe incorrectly and insufficiently.

I take this occasion to warn people against the habit of stooping, as it is particularly injurious to health. I believe there is nothing that weakens the lungs, impoverishes the blood, impairs digestion and enfeebles the brain as does stooping. Break yourself of it, and add many years to your life. Walk every day at stated times as described in Position II. (see Fig. 4) and take full breaths. Practice at first a short time, and gradually increase the amount of exercise. The beginning may be hard, but you must conquer!

By Controlling your Breath you can learn to Control Sleep.—This influence of the lungs over the brain is potential in still another and,

in fact, the reverse of the way mentioned above. Sleeplessness, as a rule, results from the brain being too active; but this is, however, not the primary cause. The real reason is because you are breathing too energetically. Before you went to bed you became drowsy, perhaps on account of imperfect respiration in stooping over a book. Now you are lying down stretched out, and your lungs embrace the opportunity to take plenty of fresh oxygen and fill your delighted brain with it. This may often be the cause of insomnia. Reduce your breathing; breathe gently and as infrequently as possible. It will not be long before you will breathe yourself asleep.

§ 21. *The Short or Quick Taking of Breath.*

Composers of songs should take care to arrange convenient places for singers, so that they may renew their breath comfortably, and fill the lungs without too much haste. Yet this cannot always be done. For the sake of the music, a composer cannot put a rest whenever a breath is to be taken, and a singer is not allowed the privilege of deliberately appropriating sufficient time to take a long breath where the composer made no allowance for it. Many times the singer has to take breath very quickly when there is either no rest in the music or only a very short one. Also in speaking, a short breath has to be taken many times. It would sound unpleasantly and appear very disagreeable to retard by a long breath words that require a rapid and unbroken utterance.

It is generally believed impossible to take a short breath through the nostrils; at least not in sufficient quantity to be of any use. Experience has shown that this is not so. Before showing how this can be done, it must be pointed out that the quick taking of the breath through the mouth is more dangerous to the respiratory organs than slow mouth-breathing. The reason is obvious, for whatever poisonous and other foreign matter the air may be charged with is thrown in a more dangerous way into the lungs by a violent and quick inhaling through the mouth than by any other process; also the difference in temperature will do more harm, not to speak of the unpleasant noise which is caused by rapid mouth-breathing. To avoid this, it has been often advised to keep the fauces wide

apart, and to open the vocal cords as much as possible. This would slightly mitigate one of the unpleasant features, but no advice is worth taking that, by avoiding one evil, will cause other and worse troubles; for the wider the air-passage is opened in quick breathing through the mouth, the more dangerous it becomes to the lungs from a sanitary point of view. Another difficulty with quick breathing through the mouth is that the air, thus violently thrown into the lungs, cannot be easily controlled, and I have always noticed that in the same proportion of force and swiftness with which the air is inhaled through the mouth, it is exhaled again. We must, therefore, reject all taking of breath through the mouth.

The following I have found to be the most effectual method of quick breath taking, namely, with the utmost speed, but quietly through the nostrils, keeping the mouth open. Some think that it is impossible to catch a breath swiftly and quietly through the nostrils, keeping the mouth open. There is no use of theoretically arguing this matter. A large number of my pupils can practically demonstrate that it is possible to take almost a full breath with the combined breathing-muscles through the nostrils entirely inaudibly, in no more time than is taken to wink. It is also stated above, that this should be done with the mouth open, but that no air should be admitted through it. This is simply to save time, for no matter how quickly the act is done, it will take a little while to shut the mouth after the tone is interrupted for the refilling of the lungs, and then to open it again for the following tone. We ought not to call this over-care for details, for when so little time can be taken for the renewing of breath, the smallest gain of time means gain of breath.

It must be admitted that it takes considerable practice to acquire the skill necessary for this method of taking a short breath. This, however, cannot be accepted as an argument against it, for if everything that needs much work should be rejected in the cultivating of the voice, there would be not one cultivated singer. The arduous labors required for the cultivating of the voice account to a great extent for the comparatively few great singers produced from the multitude of students. In mentioning this subject, I may be permitted to add that this disproportion is not peculiar to our own times,

but that it has always been so. Musical history shows the unmistakable fact that lack of application and want of talent are the principal causes of the scarcity of great singers. If talented and industrious pupils fail, we are forced to the conclusion that poor teachers have ruined their voices.

In the chapter treating upon breathing-gymnastics we shall learn how this method of quick breath-taking is to be practised.

CHAPTER V.

THE ACT OF EXPIRATION DURING SINGING.

We know that the inhaling of air is made possible by the expansion of the thorax and by the contraction of certain muscles. After this influence ceases, the abdominal walls, the chest and the lungs, on account of their elasticity, return to their position of rest; or, as Dr. Hermann expresses it, "The elasticity of the lungs causes the diaphragm to rise and the walls of the thorax to return, and the elasticity of the rib-cartilages draws the ribs down again."* In ordinary breathing the relaxation follows immediately after the expansion; or, in other words, as soon as the air is inhaled it is expelled. We shall soon see if this should always be so from a hygienic standpoint.

Before singing or speaking the air must, of course, not only not be first exhaled, but every precaution should be taken to keep all the air that has been inhaled. This is done by shutting the doors of the lungs—the vocal cords—as soon as the lungs are filled. This traditional rule of the old singing-masters is the first part of the process of relaxing the lungs in singing and speaking.

§ 22. *Retain the Breath a Little While.*

We know the importance of finding a method which shall enable us to inhale the largest amount of air with the smallest outlay of labor. The full breath, with the combined action of the breathing-muscles, has been found to accomplish all that a human being is capable of. But of what good will it be if a considerable part of the air inhaled is wasted before a tone is produced? No matter how little time a singer needs to set the vocal cords in vibration, he can-

* Dr. L. Hermann's *Physiologie.*

not prevent a portion of the air from escaping if he does not lock it safely in the lungs the moment they are filled. The injunction to every singer for renewing the breath is: Shut the vocal cords as soon as the air is inhaled. This will prevent any air from being wasted, and will also at once prepare the abdominal muscles, and especially the upper chest-muscles, for the important work they have to perform during the emission of sound.

"Retain the breath a little while" is the advice given at the heading of this section. How long? There is no necessity of being over-anxious about the exact length of time of retaining the breath after inhalation and before producing a tone. It depends entirely upon circumstances. If there is but little time for the renewing of the air, or if the singer has inadvertently waited too long to use an opportune rest, the air can be retained only during a fraction of a second. It is a very bad habit to postpone taking breath to the last moment before the next note is to be sung. At the beginning of a song or of a new verse, and at every rest of sufficient duration, the singer should make use of the opportunity to take air a couple of seconds or more ahead of the tone, and then retain it till the time of singing.

"Retain the breath a little while." This sometimes proves a very healthy practice, not only for the singer but for every person. I believe it is Dr. Niemeyer who considers it a sign of a healthy, strong person to be able to renew the air at least sixteen times in one minute. Others say eighteen times, even. This is undoubtedly true. Dr. Niemeyer, on the testimony of learned physicians both of the classic ages of Greece and Rome and also of his own time, advocates frequent holding of the breath, after a full inspiration, as necessary to keep the lungs, the blood, the nerves, and the digestive organs in a healthy condition. He compares the taking and holding of a full breath to the opening of the doors and windows of a house for the purpose of ventilation. "By taking a full breath we inhale a large quantity of oxygen, and by retaining it awhile we agitate and purify the large air-mass which always remains in the lungs. On exhaling, we expel the carbonic acid and vapors, in a word, all the breath-excrements in as thorough a manner as if we

had taken a purgative."* I also agree with him that the holding of the breath is a partial remedy for an offensive breath. Many persons think that the unpleasant odor exhaled through the mouth comes from the stomach. This is true only if gases are expelled from it, otherwise no odor can arise from the stomach. Sometimes such disagreeable smells have their origin in decayed or unclean teeth, catarrhal affections or ulcers in the pharynx; but I refer only to what is called an offensive breath. This comes from the lungs, and is not a symptom that the lungs are diseased. Primarily, the lungs are an excretory organ. The respiratory process sends the blood coursing through the whole body, and during its journey it collects, from head to foot, all the poisonous gases and carries them to the lungs. All excrements have a disagreeable smell that may be increased by certain kinds of food. Some persons are able to perceive different odors in their perspiration according to what they have eaten.

When we consider that by imperfect breathing we always retain a large quantity of air in the lungs which must become devitalized and impure, and when we also consider the character of the natural odor of the blood-excrements discharged through the lungs, we shall then understand where a bad-smelling breath chiefly comes from—from the lungs. A person may ascertain what kinds of food give his breath an offensive odor. Generally, they are vegetables and fruits. One remedy is to refrain from eating them; another and a better remedy is the holding of the breath for a short time after a full inhalation, just as opening the doors and windows will drive away bad smells from a house.

The benefits to a person's entire system, derived from taking and retaining a full breath, are greater than those that can be obtained from the entire contents of a drug store. The omitting of this remedy is, probably, the cause of most of the affections that have their origin in the blood, the nerves, the lungs and the digestive organs. How easy, then, it is to keep well! However, the following of this advice requires the putting forth of a little energy. I repeat, take a deep breath, occasionally hold it in the lungs and

* Dr. Paul Niemeyer, *Die Lunge*.

keep healthy, as under this condition the hygienic functions will be properly maintained. Of course, no good will result from retaining the breath if the air is foul; but in the open air, and especially on salt water or in a pine forest, it will be found very beneficial.

§ 23. *The Larynx and the Vocal Ligaments are Controlled Automatically by the Breathing-Muscles.*

The vocal ligaments are the only door to the windpipe, and the windpipe is the only channel leading to the lungs. Shut the vocal cords and the air cannot escape from the lungs. How are the vocal cords shut? By taking a breath, and holding the chest and abdomen rigid, the vocal ligaments close air-tight and the breath is retained. After you have taken a full breath with the combined breathing-muscles, by watching closely the action of the muscles of the upper chest, you can easily feel an outward pressure there, especially at the sides of the chest-bone; also an inward and upward pressure at the lower part of the abdomen, stronger at the sides than in the middle. If the throat be kept in a normal position, no strain ought to be felt there. Some strain their throat with every unusual action of the breathing-muscles, but bad habits have nothing to do with our argument.

Let us make another experiment—examine the vocal ligaments with the laryngoscope. The subject should take a full breath very slowly. What do we see? As soon as the breathing-muscles begin to expand, the vocal cords open with the same degree of slowness as the breath is inhaled, till finally, when the breathing-muscles are fully expanded, the cords are also opened as widely as possible. If I tell the subject to take a very full breath as quickly as possible, what do we see? The vocal ligaments open instantly very wide. I then ask the person to take a full breath, hold it, and then let it out very gradually by the expiratory process, soon to be explained. We notice that the vocal ligaments seem tense, and the air escapes through a very small aperture. As we watch, I tell the subject to let the breath out more quickly; immediately the vocal bands become less tense, and the opening between them widens in proportion to the rapidity with which the lungs relax. What caused the

difference in the tension of the vocal ligaments? My answer is: The muscles, whose action causes the lungs to relax slowly or quickly, exercise also, automatically, a controlling influence over the tension of the vocal ligaments and the economizing of the breath. I may add that the above-mentioned outward pressure of the upper chest, and inward and upward action of the lower abdominal muscles, are the principal agents in this process.

Still another experiment is: Put two fingers upon the outside of your throat, right across the larynx; take a breath and exhale it; take a deeper breath and again exhale, and so on. What do your fingers reveal? You notice that when you inhale, the larynx sinks a little; when you retain the breath it remains stationary at the low point; when you exhale it rises again. What muscle-power causes these movements of the larynx? I answer as before—the breathing-muscles. You can readily prove that this influence is entirely automatic. Take a breath and try to prevent the larynx from going down. No matter how much will-power you have, you cannot do it. No physiologist need make the objection that such and such muscles in the larynx and throat cause the vocal ligaments to be stretched, or the larynx to be depressed or raised. All I have to reply is, that I agree to it, but insist that the breathing-muscles are the motor-power that causes them to perform the functions just described. I even go so far as to assert that it is impossible for a human being to put the vocal ligaments into any action unless the breathing-muscles are put into operation first.

To return to our first experiment. After the subject has taken a full breath, I ask him to hold it. We know that the vocal ligaments are closed air-tight the moment the expanded breathing-muscles are held firm. I now tell him to open the vocal cords and still keep the breathing-muscles and the lungs from relaxing; it is impossible! No power within control of a man's will can open the cords; but at the slightest relaxation of the breathing-muscles and lungs they open immediately, and as long as these muscles relax, it would be impossible to close the cords without first arresting the relaxation of the breathing-muscles. This proves their ability to control the vocal cords automatically.

Let us make another experiment for further illustration. Utter several times in succession, in one breath, the vowels *aa—ee* loudly; take a fresh breath and speak the vowels *ā—ō* in the same way. In the first instance, you notice that on *ee* the larynx rises, in the second example on *ō* the larynx falls very perceptibly. When you give the same exercise, without voice, in a whisper, the movements of the larynx will be exactly the same. But if you try to make the movements without letting any breath escape, simply picturing to your mind the vowels, and letting the mouth and tongue act alone, the larynx may show that it is slightly influenced by the movements of the jaw and tongue, but it will move neither up nor down except you force other muscles into play, which have nothing whatever to do in breathing. If you let the breath escape in a whisper, the larynx will at once make the movements that it is wont to make for the production of a dark or a bright vowel.

Who, in the face of these facts, can deny that the process of expiration, if rightly performed, exercises an automatic influence over the vocal cords and the larynx-movements? A flippant critic endeavored, not long ago, to throw these unanswerable arguments overboard by the wise assertion: "It is the breath and not the breathing-muscles that exercises this influence." What the breath can do by itself, if the breathing-muscles do not manipulate it as the hand of the violin-player handles the bow, we can easily see by watching the breath when the breathing-muscles relax all at once. The lungs relax, the breath rushes out, and the larynx and vocal ligaments return at once to a condition of repose.

§ 24. *The Method of Relaxing the Lungs during Singing.*

It is very singular that, in the many books which have been written about breathing, the act of inhalation is more or less correctly and minutely described, but the important act of expiration is almost always passed over in silence. Only occasionally do we come across an author who calls attention to it. For instance, Dr. Lennox Browne says: "Each day I live I am more than ever convinced that the method of *in*spiration—but more particularly the economy of *ex*piration—is of the first importance in the production of all vocal

tone, and that faults in the method of breath-taking and breath-emission are at the root of nine-tenths of the throat-diseases of singers and speakers which come under my notice." * The same author has attached equal importance to the act of exhaling in his book, "Medical Hints on the Production and Management of the Singing-Voice," but no practice, no theory is advanced. Emil Behnke, the great lecturer upon vocal physiology, also mentions very prominently the important agency of the exhaling action in his work, "The Mechanism of the Human Voice" but again without entering into particulars. Dr. Merkel † is the only physiologist who has approached this subject in a specific way, and endeavored to give the singer some advice how to relax the breathing-muscles in singing, devoting two pages to it.

The other physiologists do not even give as much as a hint that the singer should pay any attention to the manner of relaxation, as if it could be left to chance! We need not wonder at this oversight, for the physiologist is no singer, and the most thorough specialist of anatomical science cannot receive the slightest knowledge of relaxing the breathing-muscles in singing from his anatomical books or from his dissecting-table. The vocalist, who is in the habit of establishing his theory and system from his own practice, and judging it by its practical results in others, ought to be able to give more valuable advice on this point than the medical profession.

Oskar Guttmann‡ is a vocal teacher who has advanced a system of relaxing the lungs gradually. I refer to him with a deep sense of acknowledgment, for his system of exhalation served, to some extent, as a stepping-stone to mine. The very fact that I did not accept his method as my own (for the reader already knows that I avail myself of others' teachings and give them due credit), shows that I found his system wanting in very essential points.

I believe that he gives too much prominence to abdominal expansion in *in*spiration, and, in consequence, lets the abdominal muscles exercise too much pressure against the air-column during *ex*piration, which mars the beauty and richness of the tone. Then, again, he

* *Werner's Voice Magazine*, September, 1882.
† *Der Kehlkopf.*
‡ "Gymnastics of the Voice." Edgar S. Werner, New York.

does not sufficiently emphasize the necessity of the ample expansion of the upper chest during inhaling, and, consequently, loses sight of the momentous work which the upper chest-muscles have to perform in controlling the abdominal walls and the diaphragm in the process of slow relaxation of the lungs. Neither can I agree with him in giving breathing-gymnastics for all distinct and separate methods—the clavicular, costal and diaphragmatic breathing, and yet do so little to develop that ample expansion of the upper chest that is needed in singing. In my full-breath gymnastics, with the combined action of the breathing-muscles, all muscles are practiced and developed in the manner in which they can be used to the greatest advantage in singing and speaking. Separate, local muscle-practice will do little or no good, but rather tends to induce bad habits.

The more thoughtful study that is given to the relaxing of the lungs and to the important work which the entire breathing-apparatus has to perform in order to control it the most effectually, the greater is the surprise felt that, up to 1883 (as far as I know), there are only three authors who have paid attention to the details of this subject. Two of these authors are Dr. Merkel and Oskar Guttmann, neither of whom, however, half covers the field; the third is the author of this book, who, in the first edition, did justice to the subject, and in this edition treats it both practically and exhaustively.

Toward the close of 1883, a large and important book was published in London under the joint authorship of Dr. Lennox Browne and Emil Behnke, with the title, "Voice, Song and Speech." The authors of this great work have treated the question of expiration in a direct and practical way, though they have not paid as much attention to the subject as it deserves. They do me the honor of adopting the fundamental and general principle of exhalation, as I have already presented it in my articles in *Werner's Voice Magazine* and in the first edition of this book, namely, that the "large and powerful muscles of the *chest* are clearly made to regulate *ex*piration." They add, however, "as well as *in*spiration." For my part, I cannot see in what way the chest-muscles can be made to *regulate in*spiration, because that is the specific work of the diaphragm. This position of Dr. Browne and Mr. Behnke is the more surprising, as

their system of taking breath excludes the "raising" of the upper chest, and, simultaneously with it, the final though slight drawing-in of the lower abdomen. I believe that these two writers are in the same dilemma that so many are, hemmed in by physiological names and expressions which are often applied and understood in different ways, as has been shown in Section 17. It seems to me as if they considered "raising the chest" and "raising the shoulders" as expressions meaning the same thing. Raising the shoulders is an abominable practice of high breathing (see Section 12); but the raising of the chest without the aid of the heavy shoulder-raising—that means the expansion of the whole chest, lower and upper—is an entirely different thing (compare Section 15).

I do not see why the expressions "raising" and "expanding" the upper chest should not mean one and the same thing. I purposely say "expanding" the upper chest, knowing that by using the word "raising" many would misunderstand me and think that I meant raising it by lifting the shoulders. Messrs. Browne and Behnke also use two of my breathing-exercises, Ex. III. and Ex. IX. I feel greatly encouraged by this concurrence of our opinions upon ground which I occupied apparently alone and on which I at first came out publicly with hesitation. Not less do I appreciate the fact that the joint authors refer to my book in very complimentary terms on page 4, and use a long extract, with credit, from my first edition. Also, on page 203 they corroborate a statement by a quotation from my book, and express sentiments of appreciation, for which I feel much indebted.

I will now explain my system of relaxing the lungs during singing. The student should always bear in mind this axiom: *The elasticity of the lungs not only makes their expansion or inflation possible, but also expels the air in their endeavor to return to a condition of repose.* In ordinary respiration this relaxation takes place immediately after the inflation, and all at once. *But in singing and speaking this return action of the lungs must be retarded; the slower this is done, the slower will the air escape from the lungs and the more control will be gained over the tone.* The question at once presents itself: How can this be accomplished? Instructions for speakers will be given in Chapter

VI. At present our attention is occupied by the method of exhaling during singing. The singer should comprehend and be able to direct at will three things during the emission of sound:

(*a*) To hold the upper chest firm and always exert more or less outward pressure of the upper chest during the emission of sound;

(*b*) As an antagonistic action to this, to exert a strong inward and upward pressure of the lower part of the abdomen; and, finally,

(*c*) The throat, neck and all parts surrounding the resonance-cavities of the mouth and pharynx should be kept perfectly elastic without the least strain, for, as has already been stated, the tension of the vocal ligaments must be managed only automatically by the process described in *a* and *b*. These three points will now be considered.

(*a*) *Hold the Upper Chest Firm.*—Is not this rule a contradiction of the principle established in the beginning of Chapter V., that the exhaling of air is possible only by the relaxation of the very muscles which caused the expansion of the whole thorax? If we hold the upper chest firm, is not all the air that was inhaled by the co-operation of the upper intercostal muscles retained in the lungs? This objection was once made by a pupil. I wish that everyone was as thorough a student and thinker. The objection is well taken; but it falls when we understand what kind of process the muscles have to perform under *b*. That work will amply make up for what we might keep locked up by holding the chest firm.

There is a twofold reason for holding the chest firm: First, the acoustics of the voice, as has already been hinted. During the emission of chest-tones the vibrations of the vocal ligaments cause the air-column in the windpipe to vibrate, which makes the tones fuller and richer. If the windpipe can rest against a solid chest-wall, the tones will be rounder. Close observation of many cases has also proved conclusively that, if the upper chest has either not been sufficiently expanded in the act of inspiration (as would always be the case in purely diaphragmatic breathing), or if it has been permitted to relax immediately during the production of sound (which cannot be avoided in clavicular breathing), the windpipe loses the support it derives from a firm chest-wall, will become unsteady, and

the tone will sound a little uncertain and lacking in fulness. The other reason is that without the assistance of the upper chest-pressure, the process of exhaling, in my system of tone-production in singing, could not be carried out.

(*b*) *The Strong Inward and Upward Pressure of the Lower Abdominal Walls.* — I will once more warn the student against the idea that in singing the air must be forced out of the lungs by a pressure exercised by the muscles that constitute the so-called "abdominal press," as water is expelled from a syringe by the force of the piston-pressure. Dr. Henle, as quoted, uses the sucking action, that charges the pump with water, very aptly as an illustration of the physical laws that govern the manner in which the lungs are filled with air. But there the comparison ceases, for in exhaling the pressure exercised is not directed immediately against the air inhaled, but against the elasticity of the lungs and breathing-muscles in a way to make them retain the air or, rather, to retard the elasticity of the lungs so that the air is exhaled as slowly as possible, but not forced out.

Let the student take a full breath and retain it a while. I ask him to notice that he will feel not only a strong pressure outward, as it were, in the upper chest, but also another and antagonistic pressure — a stringent feeling in the lower abdominal walls. Mark well these two points: The outward pressure of the upper chest must be maintained all the time, and the abdominal walls are gradually drawn in and upward in proportion as the air is emitted, till, finally, the whole abdomen, as well as the diaphragm-region, is drawn in. By this time the air will be exhausted and exhaled. When, in singing, one tone has to be increased in strength (crescendo), or when a series of tones has to be executed with a continuous crescendo, the outward pressure of the upper chest must be increased and the stringent action of the lower abdominal muscles must be more apparent. This may sound strangely to many; and it may be to many a difficult task to accomplish. In this, as in other branches of voice-culture, there is a great difference in persons. What is easy for one is difficult for another. But I know of no case in which total failure may be expected. By perseverance every student, man or

woman, can accomplish it. By it the management of the voice is made as easy as child's play, and its growth and improvement are only questions of a little time. The practice of this breath-control is done with Ex. XI., p. 95.

(*c*) *Tension or Stretching of the Vocal Ligaments.*—I must correct here a very common error, from which I was not free myself some years ago, viz., that the control of the breath depends, at least to some extent, upon the degree of tension of the vocal ligaments. But, in the course of my studies and experience, I became convinced that this is not so. I have absolutely no doubt that breath is controlled only by the muscle-action of the breathing-apparatus as described just previously under *a* and *b*. The stretching of the ligaments serves an entirely different purpose.

The breath must be exhaled in such a well controlled and directed manner that by its automatic influence the vocal cords are stretched and set into vibrations sufficient in number and size for the pitch and strength of tone. This is possible only if the direct will-power action is kept out of the throat altogether, and the air is managed entirely by that process which is described in the two General Rules. All the thinking and all will-power action must be concentrated upon the muscular action considered under *a* and *b*. To be more explicit and avoid misunderstanding, I will add that the intrinsic laryngeal muscles are the ones which must be automatically influenced, to cause the tension, and all the extrinsic muscles of the throat kept out of the action, for they would only interfere with the correct tension instead of helping it.

Unhappily there is a widespread prejudice in the vocal profession against this theory, and it is very hard to convince singers that the cramping of the throat spoils the musical qualities of the voice and ruins the healthy condition of the throat; it causes inflammation and relaxation of the vocal ligaments which makes it absolutely impossible to have them meet at all with sufficient tension. The tension of the vocal ligaments is practiced with Ex. XI., p. 95.

When I first came East, I did not hear of a single teacher who did not use a method inducive to more or less stiffening of the throat. My system of relaxed throat and breathing gymnastics

was ridiculed. Now, at the time of editing the fifth edition of this book, after a little more than a quarter of a century, I find hardly any advocates of the cramped throat system; the great majority of teachers in New York are convinced of the importance of the relaxed condition of the extrinsic throat muscles. This book has surely done missionary work of no small value.

§ 25. *General Rule for Taking and Managing the Breath during Singing.*

To summarize the principal points of my breathing-system in a short, general rule to which I can refer the student, when necessary, in the practice of the breathing-gymnastics:

1. Take breath with considerable energy through the dilated nostrils,* contracting the diaphragm downward, thus beginning by expanding the region of the waist, and at the same instance feel a slight expansion of the whole breathing-apparatus from the collar-bone to the lowest point of the abdomen, and continue taking in air, expanding uniformly the whole circumference of the trunk in a complete oneness of action, and at the last moment, without over-charging the lungs with air, by raising the ribs push up the collar-bone, drawing the shoulders slightly backward and pulling the lowest part of the abdomen slightly inward.

2. Hold the breath a little while.

3. As you let the breath (or sound) escape very slowly, hold the chest firm to the end; and, by a stringent, antagonistic action of the lower abdominal muscles, press the lower part of the abdomen inward and upward very gradually, inch by inch, and finally draw in slightly even the diaphragm-region, until all the breath, as far as it can be used, is exhausted, and then allow the chest and the abdomen to return at once to their former condition of repose.

* In exercising this, assume the Third Position (Fig. 5, p. 84), and when holding the breath, assume the Fourth Position (Fig. 6, p. 85) for the expiration.

CHAPTER VI.

THE METHOD OF TAKING AND CONTROLLING THE BREATH IN SPEAKING AND IN LIGHT SINGING.

As far as the taking of breath — both the full and the quick breath — is concerned, it is not necessary to say more than this: It is exactly the same as in singing. If a difference might be mentioned at all, it is one of the degree of expansion. The advice, "Hold the breath a little while," is also of special importance here, because, in speaking, it has to be done not only after renewing the breath but very frequently between words and fractions of a sentence.

§ 26. *The Method of Relaxing the Diaphragm and the Lungs during Speaking.*

In the former editions of this book, though the method has been correctly described and explained, it seems that not sufficient attention has been called to one point, viz., that the diaphragm is active only during the act of *inspiration*, but during *expiration* it is passive, it relaxes. In singing and in speaking, this relaxation of the diaphragm must be very gradual, because upon it depends the gradual relaxation of the lungs and the control of the air, and this whole process is governed, let us repeat it once more, by the two antagonistic actions, the firm hold of the chest and the stringent action similar to an inward and upward pressing of the lower abdominal walls.

Now I ask, which are the points of difference in the process of expiration in speaking from that in singing?

The *first* is that not such a large sustaining power of the breath and voice is required as in singing and, therefore, it is not necessary to hold the whole chest firm but only the lower part as indicated

by the position of the hands in Fig. 7, p. 86, immediately below the end of the chest-bone. For the practice of this serves Ex. XIII., p. 96.

The *second* point of difference is in the phrasing. In singing, the phrases are indicated, as a rule, by the renewing of the breath; in speaking more often by holding it a little while and then again exhaling a portion sufficient for the next phrase, while the lower abdominal wall is drawn inward a little further, and this is repeated as often as the rules of phrasing and the duration of the breath demand. This is understood easiest by doing Ex. XIII., in four or five sections or fragments, each time letting a portion of air out for the length of two seconds and then holding it for one second, thus spending from twelve to fifteen seconds for the exercise. This gives a good, practical insight into the process of ordinary, quiet talking; but, of course, in talking, the length of each fragment of the escaping air and the repeated holding of it between the fragments has to be governed not by the second-dial of a watch but by sentiment.

The *third* point of difference is in the accentuation. This refers to the muscular action of the so-called "explosives" in speech. The air is thrown out forcibly by means of the abdominal press action in this way: The lower chest-wall immediately below the end of the chest-bone gives a strong push outward and simultaneously the lowest part of the abdominal wall is pulled or jerked inward and upward. At every successive push of the lower chest-wall the abdominal wall is drawn in more and more, and this is repeated as many times as can be done conveniently in one breath. This is practiced with Ex. XIV., p. 96.

It may be remarked here that the outward push of the lower chest-wall does not interfere with its continued, even and firm hold during expiration. It is also important to notice that this firm hold as well as the outward push is felt almost equally strong around the whole circumference of the chest, at the sides and especially at the back. Also the pulling or jerking action of the lower abdominal walls is felt especially strong at the lowest part of the back, diagonally across from the lower abdomen.

§ 27. *General Rule for Taking and Managing the Breath during Speaking.*

1. Take breath with considerable energy through the dilated nostrils — just as in General Rule, p. 70, § 25, No. 1.

2. Hold the breath a little while.

3. During the expiration (or speaking), hold the lower chest, immediately below the end of the chest-bone, perfectly firm, as also the sides and the corresponding part of the back, and throw the air (or sound) out as an explosive by means of the strong outward push of the lower chest, and at each push jerk the lowest part of the abdominal wall in and upward as described just previously. But when no explosive or accent is called for, then omit the push at the lower chest, but simply hold it firm and use the same gradual inward and upward coercing action of the lower abdominal wall as described in General Rule, p. 70, § 25, No. 3.

§ 28. *A Word of Advice to both Singers and Speakers.*

In comparing the two general rules of managing breath during singing and during speaking, it is evident that some distinction is made in using the muscles that control the process of exhaling. Still, I do not wish to be understood as having made a rule that applies distinctly to one and exclusively to the other. Both arts — the art of singing and the art of elocution — belong together. I cannot train the singing-voice without improving the speaking-voice, and, *vice versa*, the elocutionist will gain an immense amount of expressive modulation and vocal power by practicing all the breathing-gymnastics of the second series and by training his singing-voice.

1. I advise the orator, when he is called upon to use his full voice-power, to make use of the action of the breathing-apparatus as practiced in Ex. XII., p. 95. It is well to keep in mind that in this full chest-action the outward push of the lower chest can be applied to strongly accented words, though the upper chest is held firm. In the same way can a singer, when executing powerful vocal effects with full use of the upper chest-force of Ex. XII., use the outward push of Ex. XIV., when an extra accent is needed upon a

word, and this must be done without diminishing the outward hold of the upper chest.

2. The singer can use the action of Ex. XIII., p. 96, when singing very softly, though the same can be done by the action of Ex. IX. It is only a question of individual preference.

3. *Staccato* singing is done most effectively by the use of the action of Ex. XIV. *Marcato* effects must also be produced by the outward push of the lower chest. But if several notes in succession are sung *marcato* in full force, then it is best to hold the whole chest firm and still use the lower outward push.

4. It is very important for voice-users to remember that whatever force is needed in singing or in speaking the throat must not be cramped. Force must be supplied by the action of the breathing-apparatus, as practiced in the second series of the breathing-gymnastics. Singers, preachers, teachers, lawyers, and all voice-users must observe this most important rule: Keep your jaw, neck, throat, and all surrounding parts of the resonance-cavities and the larynx in an easy, flexible condition. The extrinsic throat-muscles are to be kept elastic in all voice-use, else they interfere with the automatic action of the laryngeal — the so-called "intrinsic" — throat-muscles, and not only destroy the healthful conditions of the vocal ligaments, but also spoil the beauty of the voice. The greater part of faulty tone-production is caused by the unnatural straining of the extrinsic throat-muscles, especially at the root of the tongue and the lingual bone.

5. In order to keep the throat healthy, even conversational voice-use should be done according to the second General Rule, § 27. By continually thinking about it, it will become second nature. Correct thinking acts through the nerves upon the muscles. Through the influence of the brain and nerves the pupil is enabled to train his muscles. Without fully understanding the method, all technical exercises are useless.

CHAPTER VII.

THE BREATHING-GYMNASTICS.

Is it necessary to defend breathing-gymnastics? They ought not to need vindication. From the many remarks already made about the usefulness and importance of a correct method of breathing, we might think it unnecessary to add more. Still, on account of a certain opposition to breathing-gymnastics, it seems needful to say a few words in their defence.

§ 29. *Breathing-Gymnastics the Source of Good Health.*

A writer in *Werner's Voice Magazine*, some time ago, made a very bloodthirsty attack upon breathing-gymnastics. He seems to be a regular Blue-Beard in dealing with antagonistic opinions, except that he does not cut their heads off himself, but endeavors to bring them to their end by proving them to be murderers. He brands breathing-exercises as unhealthy, and even accuses them of having brought about fatal results. This is such an extravagant assertion, and so repugnant to reason, as well as contradicting the experience of all experts in this matter, that I refuse to believe that this statement was made knowingly and thoughtfully. If there ever was such a case, it must have happened under extraordinary and peculiar circumstances. But what would one or a few isolated cases prove against the invigorating and health-giving breathing-gymnastics? Absolutely nothing! There are many cases on record of persons having been injured and killed in gymnasiums, drowned while in bathing, or shot when out hunting; still no rational being would say that bodily gymnastics, swimming and hunting are unhealthy or fatal employments. The most essential and refreshing functions of life, as eating and drinking, cause yearly the death of thousands of persons, but no sane person will, therefore, abstain from and pronounce them unhealthy and fatal.

Among gymnastic exercises there are few, if any, that are in themselves so harmless and so far from being injurious as the breathing-gymnastics, and I am thoroughly convinced, from my own experience, as well as from that of hundreds of others, that there are no exercises superior to them in general healthfulness, and particularly in benefit to the voice. I may be permitted to add a few weighty testimonials from history in favor of breathing-gymnastics. Dr. A. C. Neumann begins his book, "The Art of Breathing," with the statement: "Through all ages of the world, at least as far back as we have documentary evidence of it, we find that breathing-gymnastics have been used for therapeutic and hygienic purposes. Two thousand years before the Christian era the Chinese employed a very complicated kind of breathing, in certain positions of the body, as remedy for various diseases.* In Eastern India, 1300 years before the Christian era, they had a kind of religious ceremony consisting of holding the breath several times during the day. It is known that the Greek and Roman physicians, Celsus, Gallen and others, ordered the *cohibitio spiritus*, the holding of the breath, for medical purposes, for they believed to increase thereby the heat in the internal organs, to expand the chest, to strengthen the breathing-organs, etc.† Plato, in his *Symposium*, puts on record that the physician Erysimachus recommended to Aristophanes, the well-known writer of comedies, the practice of holding the air as long as possible in order to cure him of fits of coughing. In the middle ages, Mercurialis ventilated the subject of breathing-gymnastics, as did also Oribasius and others who followed closely the doctrine of the Greek and Roman medical men. At the beginning of this century, Kant wrote a book, edited by the renowned physician, Dr. Hufeland, entitled, 'About the Power of the Mind to Control Sickness by Mere Force of Will,' in which there is a chapter about healing certain diseases by the holding of the breath."

In modern times, Ling, the author of the Swedish medical gymnastics, Dr. A. F. E. Dally's method in Paris, Dr. A. C. Neumann's breathing-gymnastics, and Dr. Franz Bicking's institution in Berlin

* M. N. Dally's *Chinesiologie*, p. 78, etc. Paris, 1857.

† Mercurialis, *De arte Gymnastica Libri Sex*, Lib. III., Cap. VI.

for the cure of consumptives by means of breathing-exercises are too well known to need special mention. In these institutions they use, as a rule, no specific remedy besides the breathing-gymnastics. Dr. Bicking says*: "The condition of the air which we breathe becomes significant only through the breathing-gymnastics. We send the sick to healthy localities, but of what help is it when the fresh air is not permitted to penetrate sufficiently into and through the lungs? Air alone does not expand the lungs, and the benefit derived from mechanical expansion outweighs the advantages of a healthy locality."

In the face of such weighty testimony, it would be like carrying coals to Newcastle were I to add one word to prove that breathing-gymnastics are healthy in themselves. There is nothing in the world that cannot be abused. The most harmless exercises may be hurtful if used immoderately or under unfavorable conditions. *It can be guaranteed that no person in moderately good health will experience the least harm in practicing these exercises, if the advice given in these pages is faithfully carried out.* (Compare also what has been said in Sections 18, 20 and 22.)

It is generally believed that gymnastic exercises for the expansion of the chest are very healthy, because they strengthen the lungs. Allow me to state that the majority of such exercises, as taught in gymnasiums, are absolutely useless, because they are not done as a breathing-exercise. They may strengthen and enlarge the surface-muscles of the chest, shoulders and back, but not the chest-box itself and, therefore, will do the lungs no good. But if you take a full breath and hold it while you exercise with the dumb-bells, the stretching-tube, health-lift, etc., while you row or swim or run, then you will not only be sure never to become ruptured or to burst a blood-vessel, but your chest-box will really be enlarged and the lungs strengthened.

§ 30. *Breathing-Gymnastics Indispensable to Every Vocalist.*

In *Werner's Voice Magazine*, Vol. IV., p. 101, is the following: "The period when the art of singing was at its height and the stage was crowded with eminent singers, was years and years before the

* *Die Gymnastik des Athmens.*

laryngoscope was invented. Since its discovery the race of singers has degenerated, until it is now nearly extinct." This wail over an extinct race of singers is not new; it starts at certain periods in different parts of the world. But there is no more cause for tears than there is reason to cry over the obituary of a man who is yet alive. I agree that nowadays we have not as many great male singers as in the so-called glorious era of the old Italian masters, because in those days the male soprano or male alto was manufactured. In making an estimate, therefore, between now and then, this element must be deducted, and surely no one will bewail the abolition of this barbarous custom.

Outside of this, I believe that we have now as great artists on the stage as then. If the great singers of our days have a fault, however, which their predecessors did not have, it is bad breathing. The pupils of the old Italian masters had wonderful skill, power and control of breath, which, when listening to our present singers, we might believe to be a lost art. The majority of the "stars" of the concert and operatic stage in our time, are equal to those that have preceded them, with the exception of their method of breathing, which, in nearly all of them, is absolutely painful. This is the reason why the majority of singers lose, or at least impair, their voices at a time of life when they should be at their best. But this neglect of breath-education dates from a period of musical history far earlier than from the invention of the laryngoscope. Of the crime of exterminating a generation of singers, the little throat-mirror is innocent.

We know that breathing-gymnastics are healthy; still, what have they to do with a singer? Everything! But only a person that has practiced them faithfully will come to this conclusion. If you bend your head and chest unnaturally over a writing-desk, and read these pages and the following exercises through, or maybe try them once or twice and, finding that they won't go, slam the book down and exclaim: "Pshaw! it's all nonsense, my muscles can't stand it," is this substantial proof against the exercises? Surely not! In the enjoyment of social pleasures who does not meet with a similar experience? Suppose you have not danced for a few months, how do your muscles feel after you have again attended a ball? Lame

and sore. Or the winter season opens at the skating-rink; you enjoy the gleeful winter sport for the first time in the season, how do your muscles feel afterward? Lame and sore. But who has ever heard of any one getting disgusted on account of this first fatigue and exclaiming: "Pshaw! it's all nonsense, my muscles can't stand it!" No one! for everybody knows that if he perseveres, the muscles will get used to it, and what made you lame and sore at first will soon become a source of comfort and elasticity. When such is the experience of experts, how much more will it be the case with beginners? Any one dancing or skating for the first time in his life will suffer pain in his muscles at the beginning, and will find it extremely difficult to accustom them to it. Why should it surprise any one, then, that the muscles of the breathing-apparatus should undergo a similar experience at the beginning of breathing-practice? I can assure you that the fatigue will be reduced to a minimum if the advice, to be given further on for the practice of breathing-gymnastics, is conscientiously acted upon.

Why does a singer need breathing-exercises? Simply because he cannot afford to do without them. This is evident, for no one can sing without breath; it needs a great deal of breath. The more you practice breathing-gymnastics, the more breath you will have. Every singer knows how much study and practice it needs to gain complete control of the voice. Still, it becomes comparatively easy if a singer has learned to control his breathing-muscles and his breath. How can any one say, then, that breathing-gymnastics are not absolutely indispensable to a singer?

It is amusing to be told by some itinerant vocal pupil, after he has been on some of his accustomed but very uncommendable pilgrimages from teacher to teacher, that a certain "signore e professore del bel canto," when asked for his opinion about breathing-gymnastics, became perfectly wild about them, and putting on the peculiarly sneering expression of face and body so characteristic of Italians, exclaimed: "Whatafora doshe wanta breath esercitazioni; doshe not a baby know how to breatha?" It is true, a baby knows perfectly well how to breathe, in fact, a great deal better than a grown person. What remedy is there for one desirous of getting

rid of the bad breathing-habits which are the lamentable outgrowth of our artificial civilization except breathing-gymnastics? How can a singer learn to take a full breath, learn the art of exhaling, etc., except by trying it practically? Is it, then, not a breathing-exercise? Is not singing itself a breathing-exercise, and are there not greater efforts and more straining needlessly put forth by artists, both singers and elocutionists, than I advise in any of my breathing-gymnastics? If I should say, "Friends, do not commit the folly of singing or reciting, for these superhuman struggles have often produced fatal results!" would you not pronounce such talk idiotic? And rightly so!

§ 31. *Directions for the Healthful Use of Breathing-Gymnastics.*

1. In the beginning you should never practice longer than ten minutes at a time, and not oftener than three times a day. Between each practice there should be an interval of at least two hours. No matter how well the exercises make you feel, don't be carried away by your ambition, but limit the time as directed.

2. The second week you may practice for eleven minutes three times a day, the third week twelve minutes, the fourth week thirteen, then fourteen, then fifteen, then sixteen. The eighth week you may practice for fifteen minutes four times a day, and after that do not increase the practice-time for at least a month. By this time your breathing-muscles will be considerably developed, and you will be able to practice more. But mind that you never overdo; use your judgment and stop when you feel tired.

3. Some persons, especially ladies, experience a rush of blood to the head, or dizziness, when they begin the practice of breathing-gymnastics. When one feels this coming on the best thing is to stop exercising, walk up and down a few times, or, if convenient, go out on a piazza, and when all dizziness has disappeared, try the exercises over again. This trouble is never serious, and can be overcome in a short time, usually in from one to three weeks.

4. Breathing-exercises require plenty of fresh air in order that they may be invigorating and purifying, and may ventilate the lungs.

5. During the practice—and, in fact, at all times—no tight-fitting garment should be worn, nothing that will hinder the chest, waist

and abdomen from expanding freely. Belts and corsets especially must be laid aside, at least during practice.

6. It is not advisable to practice breathing-gymnastics immediately after a meal. You should wait at least one hour. Before breakfast is a splendid time for them.

7. I would caution against practicing the exercises in company with friends or fellow-students. This always creates a spirit of rivalry, which may drive a student, who has more ambition than strength, to overdo, and to injure himself rather than be beaten by a stronger rival.

8. As it is interesting to know the actual gain resulting from the exercises, before you begin practicing get weighed, measure the actual circumference of the upper chest and the waist, as well as the maximum of the expansion of both at a full breath. One inch, or one inch and a half is not an uncommon gain in two or three months. With the spirometer the capacity of the lungs can best be gauged.

9. I consider it a waste of time and strength to practice breathing-gymnastics with other than the combined action of the breathing-muscles. In many cases it may retard progress, or injure the correct method if one practices the exercises in positions which necessitate a one-sided method of breathing, as in the purely diaphragmatic or clavicular mode.

10. Particular care should be taken not to cramp or stiffen any of the muscles of the throat, neck, mouth, etc., but to keep them always flexible. This precaution should be taken especially during the second class of breathing-gymnastics, namely, exhalation.

11. Never make a positive effort to raise the shoulders, shoulder-blades, or collar-bones. Not only during breathing-gymnastics, but in all breathing keep the shoulders simply turned backward.

12. Read and re-read carefully the whole of Part II. of this book. The better you understand the theory, the more correctly you will succeed in the practice.

§ 32. *Five Positions of the Body Required for the Practice of the Breathing-Gymnastics.*

These positions show, in a direct and unmistakable way, what muscles have to be practiced and developed in full breath-taking,

and in the process of expiration. As long as the directions are followed faithfully the pupil cannot possibly make a mistake. Every exercise should be done in a certain position, and it is absolutely necessary to be very careful in regard to details.

FIRST POSITION.*

FIG. 1.

Lie flat on the back on a straight lounge or bed, with only a small pillow under the head, the arms resting closely at the sides of the body, or at intervals they may be raised and the hands folded over the head.

PREPARATORY TO SECOND POSITION.

FIG. 2.

FIG. 3.

* NOTE.—Ladies are not expected to do any breathing-exercise in this position in my studio.

Stand perfectly upright; take a round stick about two feet or a little more in length, hold it firmly in both hands, with a space between them of about fourteen to sixteen inches, the thumbs turned down and under. Bring the stick down with a quick movement as low as the arms will reach without bending the body (see Fig. 2). Then, with a very energetic movement of both arms, bring it over the head, the arms held up straight (see Fig. 3). Hold the stick over the head a little while, and, with another vigorous move, rest the stick upon the neck; hold the upper arms and elbows straight down and close to the sides of the body (see Fig. 4). Keep the

SECOND POSITION.

FIG. 4.

head erect, and be sure that the shoulders are, under no circumstances, allowed to rise, no matter how long the exercise lasts.

THIRD POSITION.

FIG. 5.

Stand perfectly upright; fold the hands on the small of the back, the shoulders curved backward a little, but never lifted upward.

These positions are only used for the exercises belonging to the First Series, for *inspiration*. The Fourth and Fifth Positions are exclusively for the exercises of the Second Series, *expiration*.

FOURTH POSITION.

FIG. 6.

In order to get ready for this position first take a full breath in the Third Position. Hold the breath a little while, and raise both forearms and put the hands flat and lightly upon the upper chest and hold them there till the exercise is over.

FIFTH POSITION.

FIG. 7.

Get into a state of readiness as in the preceding position. During the short time of holding the breath put the hands upon the highest part of the abdominal walls right over the diaphragm-region in such a way that the points of the middle fingers almost touch each other; hold them there till the exercise is over.

The first three positions should be chosen in conformity to the particular needs of the pupil. If he has a bad method of breathing, it should be got rid of at once, and this can be done only by selecting that position which will answer as a direct remedy for the bad habit. A person with habitual clavicular breathing, which is at once recognized by the drawing in of the whole abdomen and the raising of the shoulders, should, for a while, practice breathing-gymnastics in the First Position only. If one is found with the habit of breathing only with the abdominal type, excluding the expansion of the upper chest, he should practice breathing-gymnastics in the

Second Position sufficiently long to acquire the right method. The Third Position, it will be noticed, requires and improves the ability of taking a full breath *freely* with the combined action of the breathing-muscles, and of expanding the whole chest-box. Those who are not addicted to any adverse habit of breathing can do the breathing-gymnastics in the order and in the manner as I shall now proceed to describe.

The breathing-gymnastics are divided into three classes, viz.: (1) Exercises for the development and control of the breathing-muscles in full *in*spiration; (2) exercises for the correct management of those muscles that control the slow relaxation of the lungs in *ex*halation; and (3) exercises to acquire the *quick* taking of the breath.

§ 33. *Breathing-Gymnastics: First Series.*

For the Practice of Inspiration.

EXERCISE I.

The Taking of the Full Breath with the Combined Breathing-Muscles.

Take a full breath energetically but not violently through the nostrils, mouth closed, exactly in the manner described in General Rule, Section 25. Retain the air a few seconds, then expel it all at once through the mouth.

This exercise should be practiced a few times in the first three positions. unless, on account of dizziness, or for any other reason, only one or two positions can be used at a time. (See Figs. 1–5.)

REMARK.—The student should read Section 15 very carefully, especially the points under letters *a*, *b*, *c* and *d*. The advice to expand first the whole abdominal region and, later on, as the upper chest is expanded, to draw the lower part of the abdomen in, does not mean that this exercise consists of two distinct, separate movements. The energy with which the breath is taken will cause it to be done in one action, as has already been explained. At first, when it is done slowly, it may seem to consist of two parts; but when skill has been once acquired you can take a full breath in less than a second, and with one effort.

Exercise II.

The Healthful Lung-Sweeper.

Take breath as in General Rule, Section 25. Retain it a few seconds, then expel a very small portion forcibly through the lips. Purse the lips very tightly, and force a small blast of air through them, which will cause the lower part of the chest-walls, just below the end of the chest-bone, to push outward, producing a direct throw or puff of the breath by means of the abdominal press-action. After the first expulsion of air retain the breath a little while; then force a little more air through the small opening of the lips as before, with the same outward push at the lower chest-region, and repeat this as many times as can be done comfortably in one breath.

This exercise should be done in the first three positions; the same restrictions, for the reasons previously mentioned, may also be necessary here.

Remark 1.—There is no healtier gymnastic exercise than this one; for it not only ventilates but also sweeps the lungs. The refreshing effect is instantaneous. After the lungs, the head or the nerves have been fatigued by singing, practicing, speaking, running, or in any other way, this exercise practiced a few times will make you feel quite fresh.

Remark 2.—It is evident that this exercise is out of place here, as far as the logical plan of the division of the breathing-gymnastics is concerned. It is specifically an exhalation exercise; as such, we shall again take it up, in detail, in Ex. XIV. At present, however, the student need not pay any attention to the action of the muscles, except in the manner described. It is inserted here on account of its beneficial effects; for this reason after every one of the subsequent exercises, I say: Repeat Ex. II.

Remark 3.—The following points must be carefully watched: (*a*) The lips should be pressed against each other without puffing out the cheeks. (*b*) The lower chest-wall must, under no circumstances, be forced *in*, but always pushed *outward*. If it was forced inward, the result would be disastrous to the digestive organs, and would produce dyspepsia. Yet, if done with the outward pressure, this exercise will cure dyspeptics.

Remark 4.—In due time the complete action of Ex. XIV. must be used instead of Ex. II.

Exercise III.

To Gain Control of the Breath in Slow Expansion of the Lungs.

Take breath through the smallest possible opening of the lips very gradually, little by little, in one slow, continuous, thin flow of air. Retain it a couple of seconds, then expel it all at once through the mouth, and immediately do Ex. II., to quiet the lungs.

This exercise should be done in the First, Second and Third Positions, with the same restrictions as in the two preceding exercises.

Remark.—This exercise forms part of the great daily breathing-practice, in which the celebrated singer, Farinelli, pupil of Porpora and Bernacchi, spent a couple of hours daily. Farinelli's exercise in full is given as Ex. X. Breathing through the smallest possible opening of the lips cannot be understood as a contradiction of the principle to which we rigorously adhere, namely, the avoiding of mouth-breathing. As the breath is taken in this exercise through the smallest possible opening of the lips, the objectionable features of mouth-breathing are removed. This exercise will give the student wonderful control over his breathing-muscles, besides strengthening them and the lungs.

Exercise IV.

Holding the Breath.

Take breath as in General Rule, Section 25. Retain it, with mouth closed, as long as you can. When you cannot hold it any longer, expel it all at once through the mouth; then do Ex. II. a couple of times. Take another full breath, hold the air with mouth open as long as you can, then let it all out at once and repeat Ex. II.

With the same restrictions as before, this exercise is to be done in the First, Second and Third Positions.

Remark.—When you do this exercise for the first time, count by a watch the number of seconds you are able to hold the breath. In a few weeks you can note how much you have gained. This exercise gives great strength to the lungs and breathing-muscles, and also enlarges the chest. The healthfulness of this exercise has been spoken of in Section 22.

Exercise V.

Opening the Lung-Cells by Patting the Upper Chest and Shoulders.

Stand perfectly erect, the arms held loosely at the sides of the body. Take breath very gradually through the smallest possible opening of the lips, as in Ex. III., and at the same time pat the upper chest and shoulders gently with the palms. After the lungs are filled, hold the air and pat a little harder. When you cannot hold the air any longer, stop patting and let the air out all at once through the mouth, and immediately do Ex. II.

This exercise can be done only in the position described.

Remark.—Observe carefully the following: Practice this exercise very cautiously at first. If dizziness ensue, stop for a while, move about, and relief will follow. If the exercise is too severe for beginners, do not repeat the effort often until practice has made it easier. When able to do this without injurious effects, practice it more vigorously, but never overdo. Pounding the chest, as boxers and prize-fighters do, should never be done.

Exercise VI.

Opening the Lung-Cells by Patting the Back.

Stand upright, arms hanging at the sides of the body. Take a full breath through the nostrils, hold the air, bend the upper part of the body forward a little, and let somebody pat the back. When you cannot hold the breath any longer, straighten up, stop the patting, expel the air all at once, and do Ex. II.

This exercise also can be done only in the position indicated.

Remark.—This is a very invigorating exercise, and refreshing not only to the lungs, but to the whole body. Frequently, many, perhaps thousands, of the little, fine air-cells of the lungs may become completely closed or shrivelled in consequence of prolonged imperfect breathing. If this defective breathing is continued for hours, these little tubes may become so tightly closed that even a full breath, repeatedly renewed, will not open them. In such cases, this exercise, together with the preceding one, will give complete relief, which is the secret of their having such a refreshing influence over the whole system.

Exercise VII.

Improving the Elasticity of the Rib-Cartilages.

Fig. 8.

Stand erect; hold the elbows straight out from the sides of the body, the upper arms raised high, the forearm bent under the upper part at a sharp angle, the hands bent outward. Push the hands as high up under the arms as possible, pressing the palms against the body, as in Fig. 8. You will succeed better in doing this if you bend the upper part of the body forward. As soon as the hands and arms are in the right position, straighten up and take a full breath through the nostrils; retain it a couple of seconds, then press with the palms the sides of the chest repeatedly, and at each squeeze expel a blast of air forcibly through the lips as in Ex. II. After all the air is exhausted let the arms fall and repeat Ex. II.

This exercise can be done only while standing.

REMARK 1.—This is a violent exercise and should be done very cautiously in the beginning.

REMARK 2.—The twelve ribs are fastened by elastic cartilages to each side of the spinal column, and the upper seven ribs in front are similarly attached to each side of the breast-bone. In expanding the chest, the intercostal muscles raise the upper ribs and turn them outward a little. Both movements will be materially assisted if the elasticity of the cartilages, whereby the raising and turning of the ribs is made possible, be increased.

EXERCISE VIII.

Expanding the Upper Chest.

FIG. 9.

FIG. 10.

Stand erect; stretch both arms forward at right angles with the chest, fingers extended, as in Fig. 9. Take a full breath energetically through the nostrils; retain the air a little while, then draw the arms gently back, as in Fig 10, and expel the air all at once through the compressed lips. Then throw the arms violently forward, taking, simultaneously, a vigorous breath through the nostrils; hold it a short time, then throw the arms violently back, closing the fists, and expel the air forcibly through the compressed lips. Do this a few times in succession. Afterward repeat Ex. II.

REMARK.—This exercise is a powerful one, and should not be overdone. In the beginning, especially, it should not be practiced many times in succession, and also not too violently.

§ 34. *Breathing-Gymnastics: Second Series.*

For the Practice of Expiration.

The following exercises are for the difficult art of controlling the slow relaxing of the lungs during singing or speaking. The student should turn to Section 24 and re-read it, recalling especially the muscle-action explained under the divisions *a* and *b*. He should pay particular attention that no part of the throat, neck or anything belonging to the resonance-chambers of the mouth or pharynx is held rigidly during any of the breathing-gymnastics, especially those of the Second Series; they must remain in an easy and elastic condition.

Exercise IX.

Practice of the Slow Relaxing of the Lungs.

Take breath[1] as in General Rule, Section 25. Retain it a little while, then[2] exhale it through the smallest opening of the lips, observing closely the muscle-action as pointed out in General Rule, particularly the firmness and the outward pressure of the upper chest-walls against the hands and its antagonistic action, the strong inward and upward pressure of the lower abdominal wall. Afterward do Ex. II.

This exercise must be done in the Fourth Position only (Fig. 6).

Remark 1.—You may not at first succeed in holding the upper chest firm to the end of the relaxing of the lungs. As soon as the upper chest-wall begins to relax, stop the exercise, take a fresh breath and start again, and do so several times in succession, interspersed, of course, with Ex. II.

Remark 2.—In order to be sure that you do not cramp the throat, neck, etc., turn the head slightly to right and left from time to time, which will keep the throat relaxed.

Exercise X.

Practice for the Controlling of the Breath both in In- and Expiration.

Assume the Third Position. Take breath very slowly through the smallest possible opening of the lips, as in Ex. III.; retain the air

1 In Third Position.

2 Changing to Fourth Position.

a short time, then assume Fourth Position and exhale very gradually through the smallest possible opening of the lips, as in Ex. IX., observing the same rules for the expanding of the thorax in inhaling and the muscle-action during exhaling as described in General Rule, Section 25. Afterward do Ex. II.

REMARK 1.—This being a rather fatiguing exercise, it should not be done more than twice in succession at first. Also, the inhaling should not be so prolonged as in Ex. III. by itself, for you will not have enough strength left to exhale in the manner described in Ex. IX. Keep the throat, etc., relaxed.

REMARK 2.—This is Farinelli's great breathing-exercise in full, by which he gained that marvelous control over the breath for which he was noted.

EXERCISE XI.

Practice of the Tension of the Vocal Ligaments.

Take breath as in General Rule, Section 25. Retain the air a little while, put the lips in a smiling position and exhale the air as slowly as possible, producing with the vocal ligaments the sharpest possible whisper of the vowel *â* (as in *day*), observing the same muscle-action for the exhaling process as in General Rule, and pressing the chest-walls outward against the hands with considerable strength. Afterward do Ex. II.

This exercise must be done in the Fourth Position only. (See Fig. 6.)

REMARK 1.—The student should be sure to control the tension of the vocal ligaments only by means of the action of the breathing-muscles, and not by any direct strain in the throat. (See Section 24, division *c*.)

REMARK 2.—As the outward pressure of the chest-walls is increased, closer watch should be kept over the throat-muscles that there be no cramping or stiffening. To avoid it, turn the head from time to time.

EXERCISE XII.

Muscle-Practice for Loud, Sustained Tones.

Take breath as in General Rule, Section 25. Retain it a short time; put the lips in a smiling position and exhale the air so slowly

and noiselessly that its escape is almost imperceptible. This is assisted by imagining that, without making the least sound, you are saying a greatly-prolonged vowel *á*. During the exhaling, for which you observe the same muscle-action as in General Rule, press the upper chest-walls outward against the hands with all your might. Afterward do Ex. II.

This exercise is done in the Fourth Position.

REMARK.—In this exercise there is danger of cramping the throat, neck, etc.; greater care should therefore be exercised, and head turned as advised in Remark 2, Ex. IX. This is a powerful exercise; do not overdo it.

EXERCISE XIII.

Practice of the Muscles Controlling the Slow Relaxing of the Lungs during Speaking and Soft Singing.

Take breath[1] as in General Rule, Section 25. Retain the air a little while and[2] exhale it very gradually through the smallest possible opening of the lips. The muscle-action for the control of the slow relaxing of the lungs is described in the rule given in Section 27. Read it carefully.

This exercise must be done in the Fifth Position (see Fig. 7).

REMARK 1.—The danger of cramping the throat, neck, etc., is not so great here; still you should guard against it.

REMARK 2.—This exercise differs from Ex. IX. in that the outward pressure of the upper chest is omitted and the pressure is exercised by the diaphragm instead. The work of the lower abdomen remains the same. The chest should relax very gradually.

EXERCISE XIV.

The Throw of the Breath and the Voice by the Abdominal Press-Action; or the Practice of the Explosives and the Repeated Retention of the Air. Marcato and Staccato.

This exercise is important to both singer and speaker. In reality it is Ex. II. again; but now it should be done with conscious and careful attention to the action of the muscles that control the relaxing of the lungs as in Ex. XIII. In order not to repeat it here,

1 In Third Position.

2 Changing to Fifth Position.

read Ex. II. over carefully. Be sure to hold the lower chest firm after every throw or puff of air with the lips, and see that there is an antagonistic pressure of the lower abdominal walls, and an increased stringent feeling at every push of the air. Also read carefully what is said about the process of relaxing the lungs in the speaker's rule, Section 27.

This exercise is to be done in the Fifth Position (see Fig. 7).

Exercise XV.

Practice of the Slow Relaxing of the Lungs and of the Explosives in One Breath.

Put yourself in Third Position and take breath as in General Rule; hold the air a little while and change to Fifth Position. Let the breath escape for three seconds as in Ex. XIII. through the smallest opening of the lips, after which execute two puffs as in Ex. XIV.; then again for two seconds let the air escape as in Ex. XIII.; then follow three puffs as in Ex. XIV.; after which let the remaining air escape as in Ex. XIII. Then do Ex. XIV.

Exercise XVI.

Muscle-Practice for the Crescendo.

Take breath as in General Rule, Section 25. While you retain it assume the Fourth Position (Fig. 6); hold the lips as in smiling and let the air out very gradually, whispering a sharp *â* with the vocal ligaments, as in Ex. XI. Observe closely the process of relaxing the lungs as in Section 24, divisions *a*, *b* and *c*, gradually increasing the outward pressure of the upper chest, and, in porportion, the antagonistic inward and upward pressure of the lower abdomen until you have exhausted the air, then immediately do Ex. XIV.

Remark.—Take care not to cramp the throat, neck, etc.

Exercise XVII.

Muscle-Practice for the Decrescendo.

Take breath as in General Rule, standing in the Third Position. Hold it a little while and change to the Fourth Position. Put the lips in smiling position, and exhale with the sharp whisper of *â*, as in the preceding exercise. Press, for three or four seconds, very

strongly outward with the upper chest, accompanied by a proportionate tension of the antagonistic lower abdominal muscle-action. Then put the right hand upon the diaphragm in the centre, just above the region of the stomach, and relax very gradually the outward pressure of the upper chest, following it, step by step, with the outward pressure of the diaphragm-muscle as described in Section 27, and with the antagonistic inward and upward pressure of the lower abdomen. After the air is exhausted do Ex. XIV.

EXERCISE XVIII.

Muscle-Practice for the Swell or the Crescendo and Decrescendo in One Breath.

Begin with Ex. XVI.; when you are about half way through with the air, take up, without interruption, Ex. XVII. from the point where you put the right hand upon the diaphragm and relax the upper chest by slow degrees until the air is exhausted. Follow the rules regarding the muscle-actions given in each of these exercises, and when all the breath is gone do Ex. XIV.

§ 35. *Breathing-Gymnastics: Third Series.*

For the Practice of the Quick Breath.

The student should reread attentively what has been said about the method of taking a quick breath in Section 21.

EXERCISE XIX.

Quick Breath through the Nostrils with Mouth Closed.

Take breath through the nostrils, mouth closed, as in General Rule, as quickly as possible. Do this several times in succession in the First, Second and Third Positions.

REMARK.—The taking of the breath is done with the whole breathing-apparatus, only there is not so much expansion gained. In time, however, considerable improvement will be made in that regard. The nearer the taking of the quick breath approximates to a full expansion, the better.

EXERCISE XX.

Quick Breath through the Nostrils with Mouth Open.

Take breath as quickly as possible through the nostrils with the

mouth open, but let no breath enter through the mouth; follow in every respect the General Rule, Section 25.

This exercise should be done several times in the First and Second Positions.

REMARK 1.—If a pupil meets difficulties in learning to breathe through the nostrils with the mouth open, he may learn it by the following method: Hold the teeth close together, the front teeth meeting at the edges; put the point of the tongue against the upper hard-gum, then open the lips, but not the teeth, and draw a quick breath through the nostrils. As you succeed in this, you may, in a few days, hold the teeth a little apart; finally, try with the tongue down. But at every attempt of opening the mouth wider, take care that the air is not taken through it, but through the nostrils.

REMARK 2.—It is not sufficient to give only a small, stipulated time each day to this important practice; the student should use almost every breath he takes in ordinary breathing for its exercise. This sounds a little exaggerated; still the meaning cannot be misunderstood.

EXERCISE XXI.*

Stand erect, arms folded in front of the chest. Take an energetic breath through the nostrils, simultaneously throwing both arms backward, letting the left hand grasp the right forearm and holding them there at the middle of the back. Dilate the nostrils well as the air is drawn noiselessly through them. Hold the breath a little while. Then, as the air is forced out in a strong blast through the compressed lips, bring the arms forward and fold them in front of the chest, as before. Repeat three times.

EXERCISE XXII.*

Stand erect, arms hanging loosely at the sides. Take an energetic breath noiselessly through the nostrils, throwing both arms upward, one hand grasping the other directly overhead, the thumbs crossing each other. Dilate the nostrils well in inhaling. Hold the breath a little while. Then, as the breath is exhaled through the nostrils, drop the arms. Repeat three times.

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* From Leo Kofler's "Take Care of Your Voice."

PART III.

THE LAWS OF TONE-PRODUCTION.

I purposely make no distinction between the singer and the elocutionist in this part as was done in the theory of exhaling. As far as general principles and elementary practice are concerned, both should follow the same rules. I am convinced that the elocutionist can gain much in beauty and strength of tone, and even more in the quality and especially in the equalization of the so-called vocal registers, if he observes the principles of tone-production that I am about to explain. He should practice them not only in the beginning of his study, but as a daily task when further advanced. To ensure success he should also follow the advice given in Section 28, and faithfully apply himself to Ex. IX. to Ex. XII., Section 34.

§ 36. *Can Tone-Production be Learned from a Book? The So-called "Singing-Methods" or "Manuals."*

I confess a reluctance to describe on paper a system of correct tone-production. I feel like the Austrian recruit that was drafted into the army at the outbreak of the war with Italy, in 1848. He said he did not like to go into war because the soldiers shot so recklessly and took no care whom they hit or missed. He would greatly prefer the government to give him his man and let him fight and get through with him and go home! When the question is asked: "How shall a tone be produced, or how can you teach any one to produce a good tone?" I want to answer: "Show me the man or the woman." I mean, give me an individual case and I will guarantee a satisfactory answer.

In the first edition of this book I stopped short when I came to the chapter upon the method of producing tones, for the reason

that tone-production is an art with comparatively few general laws that can be applied to all cases alike; therefore, any attempt to treat or teach it in a book will be always unsatisfactory. I do not refer to the books called "singing-methods" or "manuals," as, for instance, Lablache's, Garcia's, Bassini's, and a number of others. Of these no experienced and conscientious vocal teacher can approve, for such books are nothing more nor less than a last over which the pupil is to be molded. It is owing principally to these manuals that the charlatan is able to flourish. Any one, for instance, who puts his pupils through the instruction-book of Bassini pretends in word or in print that he teaches Bassini's method; so with Garcia's and all the other manuals. Indeed, several years ago a certain vocal teacher advertised herself as teaching the art of singing according to Mme. Marchesi's method (it was at the time of Gerster's first appearance in New York), still this teacher never had any intercourse with Mme. Marchesi, nor even an opportunity of conversing with a pupil of hers. She founded her claim upon the circumstance that she used Marchesi's colorature exercises and solfeggios for her pupils!

I am wandering from my subject. I said that I hesitate to write about tone-production. How shall a tone be produced? Directly I hear that question I see in my mind an immense number of different cases. If I could recollect my own cases for the last ten years only—what particular features each presented, what were the special requirements and exercises for each,—and if it were in my power to add to this the experiences of a thousand other reputable vocal teachers, do you think that this would solve the question satisfactorily? Would it answer for every other individual case? I say most emphatically, no! I wonder how many vocal students there have been in America and Europe during the last ten years? Nearly a million, if not more. What an incalculably valuable library it would be to have a written record of each case. Could anybody assert that one pupil had been treated exactly like any of the others?

Let us try, with the knowledge he has thus far acquired, to have a pupil produce a tone. Tell him to take breath through the

nostrils with the combined breathing-muscles, to hold the air a little while, and now to sing a tone. What will he do? He will look perplexedly into my face and not know how to proceed. Ah! I forgot to strike a tone on the piano for him. I strike a tone, but still he does not know what to do, and asks: "What vowel shall I sing?" There it is! The human voice is not an instrument that can be made to produce tones by a general rule.

First, there are various kinds of voices: Female and male, high, low and medium; or, in other words, voices with a large, small, or medium compass. Then, we need the vowels in order to produce tone. Each vowel demands a peculiar shaping of the resonance-cavities. This, again, requires manifold adaptation to individual cases, because people present such diversity of conformation that it becomes a perplexing question to establish rules, except such as will answer for certain emergencies. This is not all. People contract a variety of bad habits, such as nasal, shrill, throaty sounds, etc., and these must be removed. But what proves a remedy in one case remains without results in another. Some voices are naturally very even; yet far more frequently the teacher finds breaks and unevennesses in some part, and these must be corrected.

It is impossible to give on paper a universal recipe to mold voices evenly in all parts. The difficulties, however, do not stop here. When voice-training reaches the treatment of diphthongs, mixed vowels and consonants, new complications arise at every fresh case that comes to the teacher. One distorts and twists the double-sounds; another is unable to pronounce an *l*, an *r* or an *s*, etc.; and, finally, a third presents that most pitiable of all vocal troubles, stuttering or stammering. When you examine this list, do you wonder that I consider it a difficult task, to say the least, to present the principles of tone-production on paper? I should rather end my book here abruptly, as I did in the first edition, than to attempt a further written elucidation of the practical part of voice-culture; but my disinclination is removed by the many requests that have come from various sources, and I shall, therefore, proceed as far as I think can be done without oral, personal teaching.

CHAPTER VIII.

THE PRELIMINARY STEPS IN VOICE-CULTURE.

The first step is the most important in any branch of art-study, and especially in music. I have often asked myself: Which is the most popular musical instrument? I think a large majority would not hesitate to say the piano. We certainly hear a great deal of piano-playing. I believe, however, that the voice is the most popular musical instrument, for two reasons: First, because it is by far the cheapest musical instrument; it cannot be bought, it is always a gift, and often exists only in the imagination. Secondly, because popular ignorance in regard to its correct use is so great that even poor singers can look for hearty applause from their friends. This also accounts for the general opinion that almost any one is good enough to give the first instruction, and after a couple of years the pupil can be sent to some high-priced maëstro for the finishing touches. Then, surely, they are finished.

The first step in voice-culture is undoubtedly the most important to a student, because his whole future career depends upon it. Sometimes the study is begun too early in life, but oftener too late. The next important step is the selecting of a teacher and the classifying of the voice. These points will be considered successively.

§ 37. *At what Time of Life should Cultivation of the Voice be Begun?*

All conscientious teachers and all the European conservatories assert that it is dangerous for a person to begin voice-culture too young, ere the vocal organs are sufficiently matured and strong enough to stand the hard work imposed upon them, and it is usually urged that it is not safe for a young lady to begin before she is 17 or 18 years, or for a lad before he is 19 or 20 years old.

This is, undoubtedly, very safe reckoning and precludes at once the possibility of beginning too early; neither could any one argue that it is too late, though I believe that this schedule of time would force a considerable number of students to postpone an important matter longer than necessary. The fact is, that the time of beginning vocal studies, like so many other things pertaining to voice-culture, must be decided individually, and cannot be established for the whole human race.

It is not difficult to decide this question in each individual case. The maturing of the vocal organs, or, as it is called, "mutation of the voice," coincides with the maturing of the sexual organs. Girls mature earlier than boys. It varies greatly also according to climate and countries. Before a young person is perfectly matured in this latter sense, cultivation of the voice must not be begun.

The mutation of the vocal organs is a very important period in a singer's life. The larynx grows very little during childhood, but at the time when a boy or girl enters puberty, it begins all at once to grow; the cartilages, the vocal ligaments and the muscles of the larynx develop with amazing rapidity till they attain the size which nature has fixed for the functions of the individual man or woman. An unerring sign that the voice is entering upon the process of mutation is the breaking of the voice, which involuntarily jumps from a low to a high pitch. Soon after these manifestations appear, the young singer will notice that it becomes easier to sing the tones belonging to the lower range, while he experiences considerable difficulty in producing the highest notes of his compass. This is the time when it is an imperative duty for all who have the responsibility and care of young voices, to compel their young charges to give up singing altogether till the larynx is perfectly matured, about which an experienced and conscientious teacher will be able to decide. The time to begin the cultivating of the voice for a well-developed and healthy young person is, therefore, after the mutation of the voice and fully completed puberty. This time may vary several years in different persons.

I am aware that not infrequently an opposite view from this is taken. I have heard it argued that the art of singing is such a diffi-

cult task, it requires so much general education and thought, that it would seem advisable to postpone its study to riper years. This is a fallacy. I can prove that a pupil should begin young on account of the hard lessons he must learn. We should look into this matter philosophically. What are the necessary conditions for becoming a great singer?

He must have a fine sense for tone, time, musical forms, a very delicate and refined feeling, sound brain, great reasoning power, an exceptionally good memory, and an indomitable will-power. These are the mental qualities, the owner of which must further have not only a strong and healthy body, but one which is in appearance a model of symmetry; a full chest, good lungs, a strong larynx, large acoustic cavities, sound and well-shaped teeth, a tongue neither too large nor too small, a good ear, etc. It suffices for our argument to consider only a few of these qualifications.

The sense of tone has two important factors. One is the local sense of feeling (*Tastsinn*), which, assisted by the air-column in singing, enables the singer to localize both the tone-producing body called vocal bands and the acoustic properties of the cavities of the pharynx and mouth. The mucous membrane, in which are imbedded the nerves of the sense of feeling, plays a very important part in singing. The other factor is the physical ear, as a means of determining the musical pitch of the tones produced by the former factor, their quality, tone-color, dynamic conditions, etc. Moreover, the sense of tone, assisted by refined feeling and sense of time, must form that combination of forces which creates life and soul in every melody, namely, time and rhythm. The sense of musical forms in combination with the sense of tone is the necessary foundation for a correct musical conception. As far as musical forms are dependent upon the tone-color (polyphony), this sense needs the ear; as far as they are represented as figures on the musical staff (harmony), this sense needs the assistance of the eyes. The engineer of all these forces is the brain, which leads and commands them all with tender strings, the nerves, those mysterious telegraph wires by which the still more mysterious operator, the brain, sends directions to the senses and organs of the body. Just

as electricity is the quickest moving element in the cosmic creation, with the exception of light, so are the brain-messages sent through the nerves the quickest movements in the human body. Still the nimble and practiced fingers of the telegraph-operators are an essential element in the swiftness of a telegraphic message; so is the nerve-work as directed by the brain in vocalization dependent upon well-trained muscles and elastic cartilages.

The mechanical element is a very considerable part of this process. The eyes perceive the notes on the paper, the eye-nerves communicate the result to the brain; from there a message is at once dispatched to the sense of tone; other communications are sent to all the muscles that either direct the breath, the position of the larynx, the pitch of intervals, the tension of the vocal bands, the dynamic element, the shape of the resonance-cavities for the shading of the tone and the coloring of the vowel element, and the muscle-action for the placing and tuning of the consonants; orders are also sent to the sense of time to attend to the rhythmical work. All this, while communications are held continually between the ear-nerves and the brain, to help and correct, here and there, and back again to the eye so as to attend with the minutest care to all the many details that go to make up an artistic performance. This is a hundred times a more wonderful repeating instrument than that great invention of the human mind—the multiplex telegraphic machine.

It is at once evident that the movements of all the muscles that have an active part in the intricate functions of the vocal apparatus are mechanical acts, and every muscle must undergo a long process of training before it can do its work with that smoothness, facility and correctness that are the signs of a perfect artist. It is an important link in our argument to notice the undisputed fact that the vocal muscles when they are young, that is, as soon after the mutation of the voice as the judgment of an experienced teacher thinks advisable, are yet naturally flexible and limber, and their training comparatively easy; but during every year that elapses after the period of puberty is reached, the tissues of those same muscles become harder, the cartilages grow more bony, and the training will

meet with difficulties of which the younger pupil knows nothing. The experience of all teachers has been that it is impossible to give to pupils of advanced years (I mean to all those who begin after their twenty-third or twenty-fourth year) that throat-facility which those can acquire that begin younger.

But this is not all. For is there not even in the mental element of the act of singing a great deal of mechanical work? We cannot deny that in the action of the eye-nerves in grasping and transmitting the musical forms from the paper to the eye and from it to the brain, there is a great deal of technical if not mechanical work; the same is true of the ear-nerves. The mental mechanism is even more difficult to train at an advanced period of one's life than the muscle-work is, and in order to make a finished artist, the student must begin with the training of the mental part many years before the cultivation of the voice as a muscle-practice can be safely undertaken. This accounts, then, for the fact in musical history, that the greatest operatic singers have invariably begun the study of music and singing, as an elementary practice, when quite young; and regular cultivation of the voice at the proper time —after its mutation.

Suppose, however, that the student has not been so fortunate. The years do not wait; he is now creeping on into the twenties, and his conviction that he has a voice continues to grow upon him, for "he might make something out of it," a remark which is always a plain hint of a professional aspiration. Now a good chance offers itself to begin his studies. But he is already twenty-five years old. Is his age an insurmountable barrier? I believe not. Still, before giving a decided answer, I should rather, at this point, enter into a few details, for every one who has had any experience in this matter will at once agree that it is a great deal easier to decide in individual cases than in a general way.

One condition must be universally conceded. Our candidate must have a fair natural voice, a good ear for music, a little more than ordinary intellectual capacity and a considerable amount of application. With that much capital to start with, he must bear in mind that, under the most favorable conditions, but with his years against him, he will have considerable trouble in overcoming the

stiffness of his muscles and cartilages, and many technical difficulties in the mental work-shop. Still, I see no reason why a faithful candidate should not be encouraged to begin cultivation of the voice even now, with a reasonable hope of finding engagements in the profession. But with every year of postponement the case becomes more difficult, and, even if the above conditions are favorable, one point will weigh very heavily for or against a beginning pupil, who is nearing thirty years, namely, the degree of elementary musical knowledge and especially of his skill in reading vocal music in regard to tune, time, and rhythm. If a pupil thirty years of age should come to me for examination as to professional prospects, I should first inquire whether the conditions put to the one of twenty-five years are favorable. The next question would be about his knowledge and experience in elementary singing. If these are satisfactory, I see no reason why even this one should not undertake the task. To be sure, such cases do not very often come under a teacher's observation, still I know of some who had had considerable experience in singing in choirs and vocal societies, but no regular cultivation of the voice, which, of course, was the ground on which I could encourage them to undertake it, in spite of their being thirty years of age. The result was that, after two or three years of study, they still found employment sufficiently remunerative to repay them for their outlay and trouble.

How would it be with a similar case, but with the difference of five years more? A candidate for the professional career of a church-singer at thirty-five! In the case of a very good natural voice and considerable experience in reading vocal music, especially if the aspirant is in possession of a bass or contralto voice and with no great faults of voice-production—such as seriously bad muscle-movements—I hold that a reasonable amount of success might be achieved. I will relate here an incident that has some bearing on this subject: Some years ago a gentleman came to me to be received as a pupil in cultivation of the voice. He had a good natural bass voice, a very good ear, considerable experience as an amateur singer, had, when twenty years of age, taken about one quarter of vocal lessons, but when he called on me was in his fortieth

year. I tried to discourage him, as I did not wish to take the responsibility on account of his age, besides which there was considerable tremolo in his voice and his compass was very small, it being almost impossible for him to sing one-half tone higher than C of first added line above the staff, in bass clef. As he pressed his case very strongly and agreed to take all responsibility upon himself, I consented to take him. After two or three years of work, he succeeded in overcoming the tremolo completely, extended his compass to a third above C and was not afraid to take sometimes the F above. The artistic effect of his singing was not a mean one, and he still did considerable work in a professional way, though as a business man he did not exactly seek it.

But suppose a candidate about thirty-five years of age should come to a singing-teacher with the following story: "Well, sir! I want to take singing-lessons. I have never learned anything about music, don't know one note from another, but I can beat anybody whistling. I have never sung much, but my friends have always told me I had a good voice and I should have it cultivated. I am pretty old, but I think I can make it pay." Could the teacher conscientiously encourage him and take him as a pupil under the distinct promise "to make it pay?" I sincerely believe that he could not. I should say it was too late. But if he should insist upon taking lessons, I should try to convince him to look forward to nothing else but his own improvement without any pecuniary reward.

This brings us to the line that divides the professional from the amateur, and we can now, without any other distinction, but only with the view of improving the voice, ask the question: When is it too late to cultivate the voice? Or, in plainer words: When is a person too old to make an impression upon the vocal muscles by training them to sing? The answer is: When that point in life is reached when the muscles are beginning to feel the slow, declining and dissolving process of age. It is, of course, impossible to fix a figure that would answer as the great stop for everybody, for some persons are older at forty-five than others are at sixty. It is usually the case, I believe, that persons, when they feel that they are growing old, have not much enthusiasm to become vocal pupils. Still

it is often said with a great deal of truth that "an old fool is the worst fool."

This reminds me of a fact that has an amusing and almost a direct bearing upon our subject. Not long after my arrival in this country, some friendly disposed teacher—do not call him a fiend after you have read the following lines!—sent one of his pupils to me in the person of a German gentleman of small size and very much advanced in years. Very hesitatingly he unfolded the object of his call: "Don't laugh at me, sir! I know you will think I am an old fool. Well, I am a tailor. I have been a tailor all my life. I have managed to save some money. I have no children, my wife is old and I don't know at times what to do with myself. So I bought a piano, and thought I would learn to play a few tunes. The old woman laughs at me, but I am going to do it. Mr. N. has taught me for nearly three months, and I know the notes now and can find them on the keys, if you give me time enough. My teacher says he has no room for me any more, but I suppose he thinks it is too much trouble. I don't blame him. I never learned quickly anyhow, and now I am fifty-six years old." And in this strain he went on. I shall not attempt to describe my feelings at the prospect of teaching such a promising pupil, and tried my best to ward off the Herculean task. No use. I finally agreed to give him six lessons. I do not know that I ever had, among a large number of faithful pupils, one that surpassed my tailor in enthusiasm, energy and application. But it was terribly slow and painful work with him. The mental transmission from the notes through the eye-nerves to the brain was so slow, and the transferring of that mental picture to a piano-key by means of his bony and horny fingers, stiffened by age and contracted by his tailoring work, was so cumbersome and awkward that Maelzel's metronome would run down before he was able to finish three measures. Not one of his lightest troubles was that his backbone, stiffened and bent by a forty years' sitting on a tailor's table, forced his whole body and head forward, and pressed him down over the keys as if held by a vise. I advised him, at the sixth lesson, to have a piano-stool made to order, on which he could sit in regular tailor's fashion, and if ever he should advance so far as to

have need of the piano-pedals, he might have an attachment made which would enable him to work them with his knees. My agreement of six lessons being fulfilled, it was the last one.

It is almost superfluous to make a comparison between this case and that of a vocal pupil under similar conditions. The comparison would result in every particular to the greater discouragement of the vocal student. The difficulty of overcoming the slowness of the mental technique and the stiffness of the muscles may be the same in both cases, but the aged vocal student has the two additional and very discouraging features, namely, that his ear cannot be assisted in so easy a way to sing the correct pitch as the aged piano-playing tailor could be guided to the right key, and, above all, as soon as the tailor was successfully launched upon the right note the tone was correct—even mistakes would give at least a good tone as such—but the aged vocalist will, at each miss or hit, bring forth a bad tone.

Only a few years ago I had the torture of attempting to prove to a pupil fifty years of age, who fairly forced me to take him, that cultivation of voice at a certain age was impossible. The man showed, even at his time of life, that he was, when young, in possession of a very fine tenor voice of great compass and strength, and that he had unquestionable talent for music. He would have been a tenor, beyond doubt, for he still showed the great mania of all high tenors of boastingly attempting high C, and he would have been a *tenore robusto*, for his successful attempt to produce high A brought forth a blast as if coming from the fog-horn of an ocean-steamer. I tried to dissuade him from taking lessons. Some of New York's teachers, however, gave him great encouragement, and he made up his mind that he would take lessons; still he insisted upon having them from the only one who discouraged him. He persevered for three or four months, in spite of repeated entreaties to stop. As he had previously learned the elements of music, not only in attempting to play the violin and flute in former years, but also by reading at sight, he learned, of course, a few melodies; but as far as cultivation of the voice is concerned, he made very little progress—it would have been a miracle if he had. Still, even actual failure could not convince him, and when I said that I had positively

decided not to continue the farce any longer, he informed me that he was bound to become a great singer, even though it should cost him a thousand dollars! But as he could not find among the teachers upon whom he called one who had conscience enough to discourage him in the least, but rather overdid their mad cravings for a new pupil by holding out to him the promise of the most flattering results, he became distrustful, and concluded to postpone his vocal training to the millennial season.

Before dismissing this subject I should like to answer the following question: Why is it that we find in this country a great many very accomplished lady singers, both professional and amateur, but only a small number of male vocalists who would compare favorably with their fair competitors for vocal honors? It would be absurd to contend that the ladies have a monopoly of vocal talent. The cause of this disproportion must be found in the theory of the "bad boy" who as "young America" is allowed to "run" himself, and his tastes seldom lead him in the direction of musical elements, or the tedious and slow progress of piano instruction. Slow, arduous work like learning music is distasteful to the American boy, as a rule. When he grows older he gets into business. After he has gained a footing there, and has seen a few young gentlemen who have had an education and musical knowledge beside their business training, and notices how much more successful in society that small class of young men are, he resolves to lead an unmusical life no longer. Only little time can be spared from business and other duties for lessons and practice, besides it goes so hard and so slow now; when he was younger it would have gone so much quicker. The result is either that he gives up after a couple of years of unsuccessful attempts, or achieves only a painful mediocrity. With a young lady it is different. A "musical education" is almost as great a necessity for her as his business training and a silk hat are for the young man. She commences piano-lessons when quite young, and acquires at least the mental technique without much trouble, and learns the elements of music at a time when it can be done almost like child's play. If she has a voice, she takes singing-lessons as soon as she has bloomed into a young lady.

The moral is this: Begin young, for when you are older it takes twice the time and labor to make up for what you have neglected in youth. Still I do not wish to discourage those who either had no opportunity or no will to learn when they were young. But my advice to all vocal and instrumental students who begin at the age of twenty odd years is: Learn and improve as much as you can; but if your progress is slow, blame not your teacher but your fate. Music, and especially the art of singing, is a difficult, and very often a discouraging work even under favorable conditions. But when your age increases your troubles, you should not grumble, for it is only natural that a full grown rosebush should have harder thorns than a young plant.

What degree of musical education is required to begin voice-culture? In the best conservatories of Europe, notably those of Berlin, the rule has been to refuse every applicant to the vocal department who has not made a thorough study of piano-playing. This does not seem to be the rule in America. Here even a singing-teacher can flourish without being able to play the piano. Not infrequently we hear the remark that in European conservatories pupils are criticised too severely. However this may be, it is certain that here we are too lax. I believe the following rule should be observed, namely, that a vocal pupil ought to know the rudiments of music, play the piano sufficiently well to accompany a song, and be able to transpose vocal exercises to all keys. This brings us to

§ 38. *The Selecting of a Singing-Teacher.*

As I wrote the section-heading the thought arose if it should not read "the selecting of a singing-pupil;" for it happens as often as not that a pupil is caught up by a systematic lesson-peddler before he has a chance to select his teacher. One hears almost incredible reports of the audacity, the shrewdness, the trickery and the wickedness displayed by these rapacious pupil-hunters. I will give an example of the meanness to which certain teachers will stoop in order to snatch a pupil from another teacher. A young lady called on Mr. N. with a friend—who was a pupil of Mr. X.—to have her voice tried with a view of taking lessons. In the course of the

conversation the young lady mentioned that she was not ready to decide yet, as she wished to see Mr. X. At this, Mr. N. said: "Please spare yourself that trouble, for Mr. X. amounts to nothing as a singing-teacher; I know dozens of voices that he has ruined. Moreover, he has no character; at least, I know that he has stolen thousands of dollars from his choir!" The accusation was basely false, and Mr. N. made it purely from professional jealousy.

Sometimes a pupil or the parents have an opportunity or the independence to choose a teacher for themselves. I would advise them never to engage a teacher who speaks disparagingly of his brother-professionals. The teacher should be a gentleman, but a man who stoops to calumnies and lies in order to gain a pupil is, to say the least, not a gentleman, and is unfit to be the teacher of young ladies. Moreover, he is evidently incompetent, for his conversation gives evidence that he is bitterly conscious of his own weakness and incapacity. He knows too well that he cannot measure himself at half length with those whom he decries, and that he would stand no chance in a comparison with their merits. Thus, he who seeks to have an easy time in this world and who considers life too short to learn anything new, derides those teachers who are faithful students and conscientious, painstaking workers.

As I said before, some people think that for a beginner almost any teacher is good enough, if only he is cheap. If these same people are about to get a new dress for their daughter they probably go from store to store, asking and examining, so as to be sure to get the best value for their money and the most becoming outfit for the young lady. Do they exercise as much care in selecting a teacher? Maybe they do, but oftener they do not. Whichever way the case stands, it is a difficult and important thing to choose rightly.

How can one know who, out of the large number, is really a good teacher? In New York, for instance, there are many good singing-teachers and a still greater number of poor ones. How can people distinguish between them? The rich not infrequently judge by the price. If a teacher has the presumption to ask $5 for a half-hour lesson, then it is thought he must be an exceptionally fine teacher. But you will often find the highest-priced individual a charlatan.

You may doubt a man's ability if he blows his own trumpet loudly, tells of what he has done and what he can do. A man of profound knowledge and ability is usually modest. But when a man talks as if he were the great "I am," and is so saturated with egotism that he can see no merit in anybody else, steer clear of him, for his teaching will profit you nothing.

What the pupils of certain teachers say is also not always reliable. They invariably talk as their master does. If he is unprincipled, he will cause his pupils to be unprincipled also. Not infrequently pupils leave a conscientious teacher because he dares to do his duty and tells them the truth about their voices, or their neglect of study, or their lack of talent, etc. Or perhaps the teacher is a choirmaster and has had occasion to dismiss a pupil from the choir. This teacher will be persecuted and slandered ever thereafter by that pupil. How can these things be found out? I have neither the time nor the ability to formulate rules that will prevent imposition in all cases. Still, I will endeavor to add some advice to what has already been given.

If, when you apply for lessons, the teacher praises your voice and your professional prospects in unmeasured terms; if he promises you a brilliant career in grand opera when you have reason to believe that your voice is only a moderately good one, you had better let your judgment watch your vanity, so that you will not be led into the trap of uselessly paying large sums for tuition season after season. Again, if a teacher asks large payments in advance, either for a whole season or for the greater part of it, you may distrust him. It is inadvisable to put yourself at the mercy of a teacher who may ruin your voice, for all you know. Because Miss So-and-So has taken lessons of him and tries to induce you to go to him, is not in itself a sufficient guaranty that he is a competent teacher. She may not herself realize how little she has learned and how much she will yet have to suffer. If you have begun lessons and your throat becomes much fatigued; if it often gets sore and your voice gets husky and you know it does not come from a cold, then leave your teacher. To continue so as not to lose the money paid in advance would be false economy.

Not infrequently an applicant for vocal lessons will be told by a teacher that in a short time he will give her—if she is a mezzo-soprano—or him—if he is a tenor or a baritone—the high C, nothing less than the high C; for his exercises are so powerful, his method so sure, that every one can get high C. Take my advice, let him alone; the talk of high C is all bosh. It is nothing but bait to catch a fish. Another teacher, when asked what he thinks about breathing-gymnastics, nearly falls into fits in his mad endeavor to show their folly. Bid him good-bye. If your friend, a pupil of Signor Asinini, advises you to take lessons of him, ask her what the first lessons were. If she says she began at once with scales, colorature exercises, and operatic arias, make up your mind not to risk it.

I also wish to recall to your mind what I have said about "manuals" or "singing-methods," or "vocal instructors." If a teacher uses such books for his lessons, I advise you not to embark in his boat. If a teacher promises to make you a finished artistic singer in a year or so, you can take for granted that he is a humbug. The old Italian method acted upon the principle, "*ars longa, vita brevis*," which means, "art is long, but life is short." Nowadays, some teachers think that life is so short that it is not worth the trouble to learn the art. My dear young student, let him think so and keep out of his way. Also, find out before you engage lessons what the teacher's methods are in regard to vocal registers. If he says that the voice must have three distinct registers upon certain dividing lines, or if he contends that there are no registers at all, but that you must sing with the larynx held fixed at the lowest point in the throat, then you will do well to look further. If he tells you that he has made the great discovery that there is no distinction between female and male voices and that consequently he treats all alike, then you ought not to trust yourself to his care any sooner than you would cut your throat. Finally, if you hear the teacher talk in a squeaking, nasal or otherwise unpleasant voice, you may feel satisfied that he can do your voice no good, since he does not know how to improve his own. I need not add more. If the advice given be followed it will save pupils much money and spare them disappointment and injury.

§ 39. *The Easy Range of Tones and the Classifying of Voices.*

After a good teacher has been selected, the next important question is: What kind of voice has the pupil? It seems absurd to mention the distinction between female and male voices. But an amusing incident happened to me touching this very point. Several years ago I was looking for a first tenor for my choir in St. Paul's Chapel. One day a middle-aged lady called and asked if I was looking for a tenor. Upon receiving an affirmative answer, she offered herself for the position. "You misunderstood me, madame," I said; "I am looking for a tenor." "Oh, yes, yes, I know," was the reply, "but I am a tenor, a regular tenor!" "Excuse me," I answered, "but I do not understand you." For curiosity's sake, however, I stepped into the choir-gallery to hear her sing Mendelssohn's touching recitative and aria, "Ye people, rend your hearts" and "If with all your hearts." She sang it in exactly the same key as a regular tenor. The lowest note she had to sing was F, fourth line, bass clef; the higher tones had an alto character; still, her lower tones had a very coarse, almost masculine sound and might easily be taken as coming from a tenor. I told her that though unprejudiced against herself or the female sex in general, I could not engage a lady while I could find a man to fill a man's place.

What kind of voice has he or she got? This is generally believed to be the most important question in the beginning of voice-culture, a question that must be answered before teacher and pupil begin their work. Like many pet theories that have become traditions, I cannot accept this as a reliable opinion. I know many cases where teachers have made mistakes as to the classification. This is a serious matter for two reasons: First, because such a mistake is very injurious to the voice; and, secondly, it is usually a long time before the pupil will find out the error. The teacher who committed the blunder may have detected it himself after a couple of months or sooner, but did not possess sufficient manliness to tell the pupil and to change his method while it was yet time and before any serious damage had been done. I cannot see how it would hurt a teacher's reputation to be honest with his pupils. We are all human, and humanity is not infallible. But the error should always be corrected

at the earliest moment. The doing of this is indicative of true manhood, whereas it is criminal to persist in the wrong course and thus ruin the pupil's voice rather than confess your mistakes, fearing thereby to dim the lustre of your imaginary greatness. Some voices are not only difficult to classify, but it is sometimes almost impossible to get a correct understanding of them at first.

Even an experienced ear may sometimes be deceived. The reason is this: There are comparatively few voices of really decided character. We need not wonder, for we find only four kinds of voices among males and females: Soprano and alto, tenor and bass. The mezzo-soprano takes some of its distinctive qualities from the soprano and some from the alto. The baritone is a voice that sometimes reminds one of a bass, at other times of a tenor. Some vocal methods and physiological treatises state that the most distinctive feature of a voice is its compass, and that therefore the compass should decide the classification. This is wrong; the *quality* of the voice is a more reliable feature upon which one can decide with greater certainty the kind of voice. It matters little whether a high soprano can sing high C or not, if her voice has the brilliancy and flexibility that is required. A mezzo-soprano may easily reach high B flat, but when her voice has a quality as if it were a mixture of soprano and alto then it would be ruinous to treat it as a high soprano. Again, if her voice could go as low as any alto, but if her tones constantly remind one of a soprano quality more than an alto, it would be just as dangerous for her voice to be treated as an alto. We frequently meet tenors who can barely sing a high F; still this is no reason that they should not be classified as tenors if the quality of voice is that of a tenor.

But even the quality is not always an infallible rule by which to classify a voice. It often happens that a person has a preconceived notion or preference for a certain kind of voice. A young man, for instance, has a fancy to be a tenor. He listens with delight to all tenor singers, imitates them and acquires the quality of a tenor voice, though he may not have the usual compass. A skilful teacher might doubt the voice on account of some tones inadvertently sung in a natural quality, still many, if not the majority, could be deceived.

I know an organist who possesses a very characteristic bass voice with a compass of two and a half octaves. At a weekly evening service at which a mixed quartet did the singing, the tenor was once absent. The organist, therefore, sang the tenor part and imitated a tenor quality so perfectly that a gentleman, who had the reputation of being a good judge of voices, inquired afterward who the tenor was, for he "had seldom heard a tenor voice of such true and pure quality." So well was the voice disguised!

Can every person learn to distinguish the quality of a voice? I should not dare to answer in the affirmative, for I have seen such unpardonable blunders that I am forced to believe that some persons are naturally color-blind in regard to tone-quality, if I may be allowed to use this expression. Such tone-blindness is very hard to cure. One thing is absolutely certain, that the skill of distinguishing the various tone-qualities cannot be acquired by study outside of and apart from individual examples. A voice-quality, or, to be plain, a tenor, a baritone, a bass, a soprano, a mezzo-soprano or an alto quality cannot be described by words; it cannot be painted with colors; and it is entirely beyond the human mind to invent means of drawing an illustration of voices on the pages of a book. This accounts for the many conflicting opinions which even experts may express in regard to a voice.

It has already been remarked that the classification of a voice-quality at the beginning of voice-culture is frequently a dangerous undertaking on account of the mistakes that are easily made. But it is not necessary to begin with classifying a voice. Instead of attempting it the vocal teacher should examine a pupil's voice carefully in order to find out *where he or she has the easy range of tones.* If you first cultivate these by the breathing-method explained previously, and make it an invariable rule that the pupil shall not sing a half tone above or below that range, until he or she can produce it freely and easily without force, unevenness or break, then the voice will classify itself and it will be impossible to make a mistake. The teacher who has had little experience, and the teacher who is tone-blind, can hardly go astray if he follows this advice. This brings us to the next question:

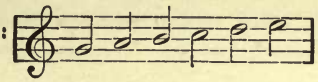
In what part of the compass can the easy range of tones be found, and how many tones does it contain?

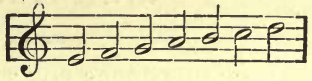
Before I give a definite answer I wish to call the student's attention to an observation that can be made on every voice, namely, that the tones of a descending scale become weaker the lower a singer goes; the last three or four half degrees that are singable differing materially in strength and timbre from those in the middle range. Not only that, but every successive lower tone is weaker than the preceding one, and the last tone is barely a musical sound; and besides becoming weaker and poorer, they consume more air and require more force for their production. The same is true of the tones in the high range. It is incredible—or I should say unexplainable—how the absurd idea that the first thing in voice-cultivation is to lay the foundation low or, in other words, to build up the voice on the low tones, has gained ground, as if these tones could ever be considered the natural basis of a voice! Of course, I know that the most important thing in voice-culture is a good foundation, but everything depends upon the conception one has of this foundation. In the whole physical domain, where the law of gravitation is in force, the foundation is always the lowest and heaviest part. The higher the structure to be erected, the heavier the material of which it is to be built, the deeper the architect digs and the larger and heavier the stones used for the foundation. This fundamental principle of architecture has been used as an illustration in educational circles from time immemorial. "Lay a good foundation; build the foundation deep." No advice is of greater importance to young students than this; but in no branch of science have I heard educators so misapply it as do some voice-builders. Lay a good foundation—yes! But accept it in its figurative sense, and not as if you were a master-mason. What has the law of gravitation to do with the voice and with voice-building? Nothing!

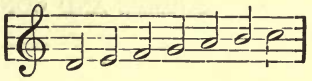
Every unprejudiced mind should take notice of the following facts: If a soprano or a mezzo-soprano is trained upon the false doctrine that the lower tones are the fundament and supporters of the higher ones, she will invariably lose the strength and fulness of her medium range. Suppose she does gain very strong low tones, down to low

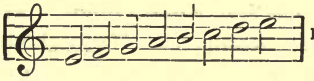
A or G, what does it benefit her? Such low tones are seldom needed by a mezzo-soprano, and never by a soprano. Moreover, since they are gained at the expense of the valuable medium range, is it not foolish, even inexcusable, to sacrifice a treasure for no other purpose than that the teacher may cling to a foolish notion? About three-fourths of the notes in an ordinary song composed for mezzo-sopranos and average sopranos are in the medium range; the other fourth may be notes belonging to the range above and below; but notes below the first added line in treble are very rare in songs written for this kind of voice. If an alto voice is dug out, as it were, very low, it may lose in volume in the medium range and also lose a couple of its highest notes. The basso-profundo will suffer the least from this unnatural method, still his highest notes will be impaired. The baritone will share the same fate, and the tenor also will sacrifice some of his highest tones. This proves conclusively that the easy range of tones cannot be found in the lowest part of anybody's voice.

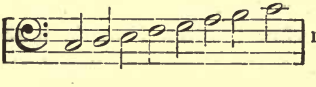
It is almost unnecessary to say that the easy range is never found in the highest part of a singer's compass, not because the foundation of a structure cannot be put on top, but because the higher a singer goes, the harder it is, and the more force is required to produce the tones. The easy range of tones is invariably the medium part of the singer's compass; they are those notes that he or she can produce in the most natural way, full and round, without difficulty and without breaks. In attempting the following illustrations of notes belonging to the easy range of tones, the reader must remember that I do not intend to establish a rule that can invariably be used for all cases. No! The examples are intended to serve only as an aid, and they must be adapted to the individuality of each voice.

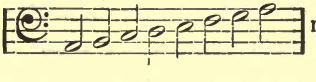
The easy range of a SOPRANO is:  **more or less.**

The easy range of a MEZZO SOPR. is:  **more or less.**

The easy range of an ALTO is:  **more or less.**

The easy range of a TENOR is:  **more or less.**

The easy range of a BARITONE is:  **more or less.**

The easy range of a BASSO is:  **more or less.**

I have found voices that had a larger range of easy tones than given in the above examples, extending both higher and lower; but I have also met a much larger number with a smaller range of easy tones than given in this list. The reason why the number of tones contained in the easy range is sometimes so small, is because breaks are often found in the transition from the lower range to the medium, and from this to the higher. But as this touches the theory of vocal registers or breaks, I need not now enter into the particulars; the student will find the explanation in Chapter XII.

Having fully considered the preliminary steps, I take up at once the theory and practice of tone-production. It has been stated that a human being cannot produce tones like a musical instrument, unless one sings with the mouth closed. Pardon me for calling this singing! The voice needs vowel-sounds in order to be musical. It is, therefore, necessary to know what vowels are.

CHAPTER IX.

THE RESONANCE-CHAMBERS FOR THE FORMATION OF VOWEL-SOUNDS AND CONSONANTS.

It is hardly necessary to remind the student of the difference between tone and vowel-sounds. Tone is produced by vibrations of the vocal ligaments. Upon the tension of the vocal ligaments and upon the position of the larynx depends the pitch of the tones produced; but the voice-box is not capable of producing vowel-sounds. After the tone is made it enters the pharynx and mouth, the shape of which can be altered at will, and this determines the character of the tone as to its vocality. Helmholtz calls the mouth the resonance-cavity for the formation of vowels. To this end, the mouth consists not only of solid walls but also of flexible and movable parts, which make it possible to vary the shape of the resonance-cavity.

§ 40. *The Solid Parts of the Resonance-Cavities.*

The walls of the pharynx, the roof of the mouth, the teeth, the hard-gums and the posterior nasal tube form the solid and immovable parts of the resonance-chambers. Will-power and human ingenuity can do little to alter any of these parts, should they be unfavorably formed. It is of the greatest advantage in voice-use to possess a highly-arched mouth-roof and a round, wide pharynx-wall. Regular teeth are not less conducive to good tones. The configuration of the teeth may be changed by a dentist, and the spaces caused by lost teeth should be filled, because they impair the purity of vowel-sounds as well as the correct articulation of consonants. This is very important in regard to the upper teeth, particularly the upper front teeth. The next important cavity serving as resonance-

chamber for vowel-sounds and a number of consonants, especially those of a nasal character, is the posterior nasal tube. Its roof is particularly important for the head-tones of female voices and the upper range of male voices.

§ 41. *The Movable Parts of the Resonance-Cavities.*

Some parts of the resonance-cavities are movable, and these, as I have just previously said, modify the sound-waves so that vowel-sounds are created and articulation in general is made possible. The voice is very different from other musical instruments, in which the resonance-chamber has no other use than to make the tones musical, and can never produce vowels or articulate sounds. True, we say of the violinist that he makes his instrument speak in bright and dark colors, etc.; these shades are not caused by the resonance-chamber, but by the touch of his fingers and the workings of the bow upon the strings.

The movable parts of the resonance-cavity are: The tongue, the soft-palate with the uvula, the arches or fauces, the cheeks and lips, the lower jaw, and the epiglottis. The movable parts require close attention. A singer who has not acquired complete control of these important instruments of vocalization cannot sing a pure tone.

The Tongue.—The tongue is the most important muscle in the formation of the vowels and in articulation. Any one unfamiliar with anatomy has not the slightest idea of the complicated construction of the tongue. When the mouth is shut the tongue fills the whole cavity. When the mouth is open, the tongue can execute the greatest variety of movements, with astonishing velocity. Very many people have not the least control over the movements of their tongues, except instinctively in talking. If the vocal teacher asks them to open the mouth and make a certain movement with the tongue, they may do just the opposite; or the tongue may be seen curled up in front, the tip almost, if not entirely, touching the roof of the mouth; or it may be thrown back in a lump and pushed against the entrance of the air-passage into the mouth, etc. It is important that the vocal student practice tongue-gymnastics before a mirror frequently, keeping in mind that they must not be done

mechanically, but by a positive and conscious direction of will-power. The tongue takes a different shape and position at every vowel-sound; this will be examined in detail for every vowel and consonant. Tongue-exercises will be explained in Section 59.

The Lips and the Cheeks.—The upper lip plays the most active part in the shaping of the vowels. It should never be held against the teeth when producing vowel-tones; indeed, there should be often a little space between the upper lip and the teeth, so that the vibrations of the sound-waves can have free play. For this reason, the upper lip should show, to a certain extent, all the front teeth, including the first molars. If it touches or covers them, it causes a sound similar to the sound produced by playing on a comb covered with paper.

The under lip is the subordinate of the upper; it follows its movements like an obedient servant. One thing must be carefully watched, namely, that it is not stretched, or pressed against the teeth, or drawn down more than to uncover just the upper part of the lower front teeth. Any one who, in singing, exposes the gums of the lower teeth would not only present a ghastly appearance, but would also produce very bad tones. Moreover, if the upper lip perform its part well, the lower lip will take care of itself. The pupil should practice before a mirror the various degrees of smiling, so that he may learn to control the lips at will, without assuming an unpleasant, grinning expression. In the smiling position of the lips he will also best learn to keep the lips and cheeks away from the teeth. The cheeks as continuations of the lips need no attention other than the remark that they are always managed with the lips.

The Soft-Palate and the Uvula.—"The soft-palate is a movable fold, suspended from the posterior border of the hard-palate, and forming an incomplete septum between the mouth and pharynx. Hanging from the middle of its lower border is a small, conical-shaped, pendulous process, the uvula; and arching outward and downward from the base of the uvula on each side are two curved folds of mucous membrane, containing muscular fibres, called the anterior and posterior pillars of the soft-palate. The tonsils are two glandular organs situated one on each side of the fauces, between the anterior

and posterior pillars of the soft-palate."* As far as it concerns us now, I need only state that these parts serve as the first outlet for tones. Exercises for practicing the uvula and the soft-palate will be found in Section 58.

The uvula is often too large, either by nature or, more frequently, from a disease called "prolongation of the uvula." Some doctors try to cure it by stringent medicines; others cut off the elongated part. This seems to me the shortest and most satisfactory way. The operation is absolutely painless, and the relief is so great that the slight wound is not to be taken into consideration. My uvula was clipped about eight years ago, and it has not troubled me since; but if the difficulty should reappear, I should not hesitate to have the operation repeated. But let me emphasize one thing: The physician must know exactly how much to cut off. If too much of the uvula be removed, the voice will suffer. Therefore, only a competent throat-specialist should be employed. I remember only one case of a deformed soft-palate and uvula of such enormous size that it was impossible for the pupil to raise them, so that she had to relinquish singing, as a surgical operation was out of the question.

The Tonsils.—The tonsils also often become enlarged by inflammation or other causes, and are a great hindrance to the free egress of voice. Some physicians prefer to operate on them with the so-called guillotine, others to treat them with stringent medicines. The shortest process and the one likely to give relief for many years, is the surgical; but it must never be performed by the barbarous use of the old-fashioned round scissors. This is very dangerous, while the guillotine cannot do any harm. The tonsils must not be operated upon when they are highly inflamed.

The Lower Jaw.—Little need be said here about the lower jaw. When I treat of vocal defects caused by a faulty action of the lower jaw, full particulars will be given about it and also about the position which it should take for each vowel. In all vocalization—and I wish to emphasize that I do not exclude articulation from this general remark—the lower jaw should be kept perfectly relaxed, all cramping

* Gray's "Anatomy," p. 718.

and stiffening should be avoided, and under no circumstances should it be allowed to project.

The Epiglottis.—All the movable parts of the resonance-cavities mentioned so far are subject to the will. Some physiologists claim that the epiglottis also is, at least partially, influenced by will-power. I do not admit this, because the influence of the will upon its movements is so indirect that I prefer to consider them merely automatic actions like those of the larynx itself. The epiglottis is a leaf-shaped, flexible cartilage, broad, rounded and free at the upper part and attached only at its long, thin, lower end to the front part of the larynx and to the lowest part of the root of the tongue. During the inhaling of air its direction is vertically upward, its free extremity curving forward toward the base of the tongue. During singing its position is directed mainly by the movements of the larynx. As the latter rises, the epiglottis ascends, and *vice versa*. In the production of bright vowels, it is higher in the lower cavity of the pharynx; during the singing of darker ones, correspondingly low. The same relative position is assumed according to the high or low pitch of tones in connection with the larynx. In my method of tone-production, this is all done in an automatic way by the breathing-muscles.

CHAPTER X.

THE PURE VOWELS AND HOW THEY ARE FORMED.

Two difficulties confront me in attempting to describe clearly and accurately on paper a vowel-sound, in regard to its shape in the mouth of the speaker or singer. I must, therefore, make some explanations before proceeding further.

(*a*) *A Vowel Tape-Measure not Practical.*— Incredible as it seems, such a thing has been attempted, though, to my knowledge, it has never been patented. I know of three, in many respects reputable, authors of vocal treatises who give the exact size of the opening of the lips and the exact space between the two sets of teeth, yes, even the length of the tone-column from the larynx to the teeth! I do not doubt that these authors were in earnest and meant to do a service to science; but I cannot believe that their claim of merit will be recognized by intelligent and practical vocal teachers.

General rules for the shape of the lips, the opening of the mouth, the position of the tongue and, in fact, for all the movable parts of the resonance-cavity can be given; but the practical teacher will find himself compelled at every step to modify these rules according to special and individual characteristics. In the teacher's mind and ear there must be an accurate model of an ideal tone, a true picture of every vowel-sound pure and clear. Julius Hey calls this the *Normal Ton.* With this mental picture the teacher lets the pupil experiment; and, watching all the parts of the resonance-cavities, he will compare the tone produced with his ideal tone and continue to correct here and there until the two tones seem to be alike.

While it is absolutely necessary to establish rules and measurements that will serve as a guide to the pupil, still it should always be kept in mind that the rule must be adapted to the pupil, and not the

pupil twisted and distorted in order to conform to the rule. The teacher should not hesitate to give advice contrary to the rule, if he cannot otherwise gain his end. The reason is obvious, for two individuals with resonance-cavities exactly alike cannot be found; these parts differ as much, if not more, than do faces. It is impracticable to lay down a universal rule for the exact width of the opening of the mouth, or of the air-entrance into the mouth, or of the distance from the top of the larynx to the front teeth. Such a vocal tape-measure can be fitted to one person only—to the one for whom it is constructed. In no other case would the rule apply in all particulars; consequently, such methods are worthless. But since some measurement is necessary, I make use of the pupil's thumb and index finger, as it is taken for granted that his different bodily parts are in symmetrical proportion one to the other. Thus my method of measuring adjusts itself to the individual. The other difficulty to be removed is:

(*b*) *The Indefiniteness of the Characters used for the English Vowels.*—My embarrassment in treating this subject does not arise from an endeavor to analyze the English vowels. If this were my object, I might take A. Melville Bell's celebrated work, "Sounds and Their Relations," and make copious quotations from it. Still less am I attempting to write a pronouncing dictionary. My task is to give a simple, sure method of producing pure tones, and to this end I must condense the pure vowel elements of the English language for use in vocalization. I must also distill, as it were, the double and mixed vowel-sounds until I get a pure drop in which shines the clear light of a pure vowel-tone. For this purpose I select six long and five short vowels, and explain the sound of each one by words whose pronunciation, in every case, admits of no uncertainty. I do this because, in the English language, a number of different vowels and vowel-combinations are used to denote one sound; and, again, others signify a sound that one not trained to this babel of confusion could never guess. I hope the reader will understand the simple method I have used to reduce this chaos to a practical result. To give him confidence in following me over this path, I will add the names of the authorities that I have consulted in this

matter: Merkel's *Physiologie der menschlichen Sprache;* Brücke's *Systematik der Sprachlaute;* Julius Hey's *Deutscher Gesangs-Unterricht;* Alex. J. Ellis's "Pronunciation for Singers;" A. Melville Bell's "Sounds and Their Relations;" Plumptre's "King's College Lectures on Elocution," and others.

I give a more or less complete list of different English characters used to represent the same vowel-sound. For this I take the liberty of using Prof. Bell's vowel-tables as given in Mrs. Frank Stuart Parker's "Order of Exercises in Elocution," though I deviate in a few instances, because I treat the English language not as visible but as audible speech, just as I learned it—a living, spoken tongue. Therefore, if any of my readers do not agree with me on some points, let them blame me, and not Prof. Bell.

§ 42. *The Long, Pure Vowel-Sounds.*

AA—aa.

This is the same sound as signified by the letter *a* in *father.* The physiological process of this sound is as follows: The lower jaw is dropped lower than for any other vowel-sound, but not so low as to require force to keep it in position, or to cause stiffening of the jaw. The lips assume a faint-smiling position, and the teeth are kept so far apart that the student, if he wishes to gauge it, can admit the thumb edgewise between them. The tongue lies flat in the mouth, its point exactly behind and level with the edge of the lower teeth, the sides lightly resting against the lower molars; through the middle of the tongue, from the tip to the back part, should be a shallow channel or furrow. The back part of the tongue is drawn down without particular effort, but sufficiently to allow a free view of the pharynx. The soft-palate is lifted up and back against the pharynx-wall (not as much as in other vowel-sounds), but without touching it. The larynx sinks a little below the place that it occupies in the throat when in a condition of inactivity.

This vowel-sound is also represented by the following characters:

a—balm, alms, malmsey, can't, calm, rather;

ah—sirrah;

au—haunt, aunt, draught, laugh, laundry, launch, gaunt;
ua—qualm.

Â—â.

This is the vowel as signified by *ai* in *gain*, or *ay* in *pray* or *day*, the same as the German *e* in *lehren*. The lips assume the position of a pleasant smile; the lower jaw is drawn down sufficiently to admit the second finger flatways beween the teeth. The tip of the tongue is kept near the beginning of the gums of the lower front teeth, barely touching them, its middle part rounded upward toward the roof of the mouth, and forming, with it, a correspondingly curved line from the teeth to the fauces. The sides of the tongue are held against both the upper and lower molars on each side, with a very light pressure against the upper ones only. The soft-palate and uvula are pushed back against the entrance to the posterior nasal tube, but do not touch the pharynx-wall. The larynx is a little higher than in a position of repose. No direct pressure by the muscles of the tongue-bone should be allowed.

The student should distinguish between three long *a* sounds. One has been classified in the preceding vowel-sound as *aa;* the one which we signify under this heading as *â*, always with this diacritical mark over it, is the second; and, lastly, *ā*, which will receive attention among the diphthongs (see Section 72).

This vowel-sound is also represented by the following characters:
ey—obey, grey, convey, prey.

EE—ee.

This is the sound as the *ee* in *feel, bee, tree, queen, seer, teeth, eel,* etc. The lips assume the position of a decided smile, more so than in the preceding vowel; the upper lip should be kept away from the teeth, as also the cheek-muscles from the upper and lower molars, and great care exercised that the smile does not resemble a grin. The opening between the teeth is only large enough to admit the tip of the second finger flatways. The tip of the tongue is held lightly against the lower front teeth, and the sides of the tongue are pressed against the upper molars and also partially against their hard-gums, so that the air is let out only through the flat channel

that is left open. The soft-palate is raised higher, and the uvula is pushed back against the posterior nasal tube and may even touch the pharynx-wall. The larynx and the tongue-bone are also raised as high as is possible in tone-production. But force must not be used, and the throat should not feel hard and swollen, no matter how loud a tone is sung on this vowel. It is to be regretted that Mr. A. J. Ellis, in his book "Pronunciation for Singers," gives the following dangerous advice: "Grasp the throat gently above the larynx and feel that it is fully hard and swollen." Any one with the slightest idea of a normal tone will perceive that the sound *ee* given with such unnatural throat-strain will cause an unpleasant sensation to a refined ear. Moreover, such hardness and swelling of the throat are unhealthy, and will surely lead to local throat-troubles.

This vowel-sound is also represented by the following characters:

e—me, hero, detail;
i—fatigue, marine, unique, police, machine;
æ—minutiæ, pæan;
ae—aerie, Aegean, Aeneid, aeolian;
ay—quay;
ea—sea, peace, league, eat, peal;
ei—either, neither, ceiling, receipt;
eo—people;
ey—key;
eye—keyed;
ie—field, shield, frieze, thief, fiend, mischievous;
oe—antoeci, oetites, oedema, amphisboena;
uoi—turquoise.

AW—aw.

This is the sound as the *aw* in the words *law, raw, paw, awful,* etc. The easiest way to picture to one's self the position of the resonance-cavities for this vowel is to pronounce the vowel *aa;* then change the lips into a half-round position, and draw the lower lip very slightly away from the teeth outward but not down. The lower jaw should not be pushed outward at all, but is dropped, though not as low as in *aa.* The lips are, therefore, not quite so far apart as in

aa. The tip of the tongue moves down to the edge of the gums of the lower front teeth. The back part of the tongue is a little higher than in *aa*, and the soft-palate is not so far drawn toward the pharynx-wall because this vowel-sound needs more reverberating air in the posterior nasal tube than almost any other vowel-sound. The larynx also is a little lower than during the emission of the *aa*-sound.

This vowel-sound is also represented by the following characters:

a—all, ball, also, albeit, walnut, false, falchion, waltz, water;
au—Paul, haul, autumn, pause, cause, taught, sauce;
ou—fought, sought, bought, nought.

Ō—ō.

This is pronounced like the *ō* in *pole, old, go, mold, bolt, olio, yolk, roll, antelope, holy, host,* etc. The lips are drawn forward a little more and into a rounder shape than in the previous vowel *aw*. The lower jaw is also a little higher, and the opening between the teeth not quite as large as in the *aw*-sound. The tip of the tongue is held against the hard-gums of the lower jaw a little lower down than in *aw*. If the student finds that with a hold of the tongue upon the hard-gums he does not succeed in giving sufficient roundness to the *ō*-sound, he may try the tone with the tip of the tongue barely touching the lower gums. The rest of the tongue is in nearly the same position (perhaps a little higher) as in the *aw*-sound. The larynx is in a lower position than in any of the preceding vowels—the same pitch being taken, of course, in each case, else the comparison would not serve our purpose.

This vowel-sound is also represented by the following characters:

ao—Pharaoh;
au—hauteur, hautboy;
ew—sew, sewed;
eau—beau, rondeau, bureau;
eo—yeoman;
oe—hoe;
oh—oh;
ow—low.

OO—oo.

This is pronounced as in the word *tool.* The lips are pushed farther forward than in the preceding vowel-sound, and the opening presents a smaller circle. Both sets of teeth approximate each other more closely, and the lower jaw assumes a more forward position in this than in any other vowel. Consequently, the student cannot be too careful in guarding against stiffness or cramping of any part. The tip of the tongue may be held at a little lower point than in the former vowel-sound, almost touching the floor of the mouth, or, in many instances, it may be found better for the tone to draw the tongue back some distance from the lower front gums, and allow the tongue-tip to remain perfectly free, not touching any part. The back part of the tongue is pushed against the entrance of the air-passage from the trachea into the mouth. This, together with the contracted shape of the lips, makes it very difficult to cultivate a round, large musical tone upon this vowel.

In regard to the position of the larynx, the best authorities do not agree. One says that the vowel *o* causes the larynx to descend lower than *oo*; another asserts that during the *oo*-sound it is lower; and a third claims that the larynx is in the same position in either case. I am of the opinion that all three authorities err somewhat. The forward turn of the lips causes the lower jaw to project a little, and the muscles of the tongue-bone are slightly stretched in that direction, thus protruding the larynx also. This forward pushing of the larynx may have been mistaken for a downward move. I believe that in the *oo*-sound the larynx descends just as low as it does in *o*, but in the former it is pushed further forward.

The reason why *oo* and not *ū* has been selected as the sixth long, pure vowel-sound is because the latter sound is in reality a syllable beginning with the consonantal *y*, as if, for example, the word "use" were spelled "yoose." As this *y* is a very strong sounding sub-vocal, I will treat *ū* among the diphthongs. The reason why the vowel *oo* is unfavorable for singing, especially in vocalizing, is because the outlet of the air is greatly impeded, and it requires only a slightly increased checking of the air by drawing in the lips a little more to produce the vocal consonant *w* instead of the vowel *oo*.

This vowel-sound is also represented by the following characters:

o—to, do, who, into, tomb, lose, prove;
u—rule, true, rue, ruby, Druid, rhubarb, sumach;
ew—chew, brew, threw, grew, shrewd;
eu—rheumatism;
oe—shoe, canoe;
ou—through, youthful, croup, you, tour, route, group;
ue—rue, issue, accrue, true, flue;
ui—fruit, recruit, bruise, juice, sluice;
u—pull, put, butcher, push, cushion, puss, sugar, pulpit. (This *u* is a very short *oo*-sound.)

§ 43. *The Short Vowels.* *

There are six short vowels—*ă*, as in *bat;* *ĕ*, as in *let;* *ĭ*, as in *hit;* *ŏ*, as in *not;* *ŭ*, as in *cut;* and *o͝o* as in *book.*

Ă, as in Bat, Rat, Waft, Amber, Patent, Shall, etc.—The pronunciation of this vowel in singing must be determined by the musical ear. The so-called "Yankee" *ă* is the least fit for a musical tone. In order to find the most pleasing musical sound for the short *a* and yet be distinctly understood, put the mouth and tongue into the exact shape and position described for the long vowel *aa;* then modulate into a gentle smile and pronounce with a very light, short throw of air the same vowel, and you will have a musical short *a.*

Ĕ, as in Let, Met, Ferret, Legend, Rend, Pet, Set, etc.—This vowel is also learned by a process similar to the preceding one. Let the lips assume a smiling position as in practicing the long vowel *ā.* Then make the opening a little rounder and produce the *ā* as a very short sound; the result will be the short *ĕ.*

This vowel-sound is also represented by the following characters:

a—many, any;
u—bury, buried;
ae—Michaelmas;
ea—feather, head, jealous, read;
eo—leopard, jeopard;

* Compare § 52, p. 158.

ue—guess ;
ai—said ;
ie—friend.

ĭ, as in Hit, Spirit, Split, Film, Finger, Singer, etc.—To produce the short *ĭ*, read again what has been said of the position for the long vowel *ee;* let the lips assume a complete smile, produce *ee* with a very light, quick throw of air, and you will find that you have pronounced a short *ĭ*. The reader will conclude that I believe the difference between these two short vowels and their corresponding long ones, *ā* and *ĕ*, *ēē* and *ĭ*, is one of duration only, and not of sound. I have argued this point with many students of the English language, some of whom say there is a difference of sound; but I have never been able to detect any difference other than that of duration.

This vowel-sound is also represented by the following characters:

e—pretty ;
o—women ;
u—busy, minute, lettuce ;
y—hymn, symbol, abyss, cygnet ;
ee—breeches ;
ei—forfeit, foreign, surfeit, sovereign ;
ey—monkey, valley, whiskey, galley ;
oi—tortoise ;
ui—build, quilt, guilt, guitar.

ŏ, as in Not, On, God, Doll, Extol, Oracle, Carrot, Scholar, Boston, etc.—This sound is produced with a position of the mouth between *aw* and *ō*. This means to start with the position of the sound *aw* and move the lips toward *ō*, but break off abruptly half way, and you will easily learn the position and sound of *ŏ*.

This vowel-sound is also represented by the following characters:

a—want, watch, quantity, what, squat, wasp, twaddle, wash ;
ao—extraordinary ;
au—cauliflower, laurel ;
ach—yacht ;
eo—George.

U, as in Pluck, Up, Ugly, Bluff, Sun, Run, But, Fulsome, etc.—This sound is reached by starting in the position and with the sound of *aw;* move the lower jaw suddenly a little lower down, break off abruptly and you form the sound of *ŭ.*

This vowel-sound is also represented by the following characters:

o—done, wont, doth, honey, dove, love, won, son, tonnage, govern, seldom, pomegranate;
eo—dungeon;
eou—gorgeous;
io—falchion, exhibition, collection;
oe—does;
oo—blood;
ou—young, tough, grievous, couple, analogous, rough, enough;
ow—bellows, gallows;
ιou—cautious, luscious.

o͝o, as in Good, Book.—The muscle-action is the same as in pronouncing the long *o͞o.* The difference is only that of duration. This vowel-sound is also represented by the following characters:

o—wolf, woman, bosom;
u—pull, put, push;
ou—would, could, should.

In order to facilitate reference to these vowels, I subjoin a table of the long and short vowel-sounds.

I. The Long Vowels.

aa, pronounced like *a* in *father;*
ā, " " *ay* in *day;*
ēē, " " *ee* in *feet;*
aw, " " *aw* in *law;*
ō, " " *o* in *go;*
oo, " " *oo* in *tool.*

II. The Short Vowels.

ă, pronounced like *a* in *oat;*
ĕ, " " *e* in *let;*
ĭ, " " *i* in *hit;*
ŏ, " " *o* in *not;*
ŭ, " " *u* in *pluck.*
o͝o, " " *oo* in *book.*

NOTE:—The practical exercises of the long vowels are on pages 149 to 152. Those of the short vowels on pages 158 to 161.

CHAPTER XI.

TONE-PRODUCTION WITH THE PURE VOWEL-SOUNDS.

The young singer is often advised to first take a course in reading at sight, and afterward go to the regular vocal teacher. I consider this wrong; for, as a rule, the pupil acquires bad habits of tone-production which afterward he will find hard to eradicate. The vocalist, whose exclusive work is to teach reading at sight, is seldom an artistic singer, and has often strange notions of the voice and its use, sometimes letting his pupils practice in a manner positively injurious. Consequently, it is advisable to leave reading at sight to a period when the pupil has cultivated his voice, at least to such an extent that he can sing a good tone on all vowels and with all consonantal combinations. But the best of all is for the voice-trainer to combine reading at sight with his vocal instruction. Its importance, and the danger lest the pupil contract bad tone-habits, should lift him above the common prejudice that it is below the dignity of the regular singing-teacher to systematically teach his pupils to sing in time and tune. For this, five or ten minutes at each of the early lessons are sufficient; for the pupil, once started on the road to keeping time and singing correct intervals, will soon be able to continue his practice by himself.

The next question is:

Shall a Pupil Begin with Vocalization or Articulation-Exercises?—Many teachers never even speak to their pupils about distinct, correct articulation. Not many years ago, nearly all singers that were trained in America articulated the words which they sang so badly that one could not understand what language they were singing in. How could it be otherwise? The teachers were nearly all foreigners, mostly Italians, in whose eyes the English language found little

favor. Singing is with them principally vocalizing. Their American pupils did not understand Italian, and the teachers did not appreciate or understand English well enough to have them sing in it. When they occasionally attempted an English song, the language was murdered.

This state of affairs was made more deplorable by the Italians establishing the prejudice that the English language was unfit for song, and that Italian was the only language in which singing should be tolerated. Greater nonsense than this I can scarcely imagine. True, the Italian language presents no difficulties to the singer; pure vowels predominate, consonants are in the minority, and, moreover, a great number of them are vocal, whilst the hard aspirates of other languages, as German and English, are unknown to Italian lips. But who will argue that what is easiest is most artistic? An easy study never leads the student to depth, and we find in the Italian language, therefore, a great lack of dramatic grandeur and vigor. The Italian artist makes up for this in the dynamic power of the vowel-tones and the vehemence of his gestures. The German or the English artist has no need for such extravagances, because the immense richness of these languages — the great variety of vowels and the vigorous aspirated elements — give to his utterance a dramatic freshness and force which are life and nature itself.

The English language is probably the one that has been decried by foreigners as the most unfit for singing. Greater calumny has never been uttered. I contend for just the opposite: That English is the very best language for an artistic singer to use, for it contains the greatest variety of vocal and aspirate elements, which afford an artistic singer the strongest, most natural and expressive means of dramatic reality. The English language has all the pure vowels and vocal consonants of the Italian; and, besides, it is full of rich elements, mixed vowels, diphthongs and an army of vigorous aspirates. I admit that it is not as easy for singing as Italian is; but just here its true merit and advantage arise. The difficulties thus forced upon the singer compel him to study deeply and perseveringly; but the treasures thus unearthed and placed within his reach will amply

repay for the hard work. My advice to American students is: Study your own language thoroughly, and practice its difficult articulation with the utmost fidelity. If once you find the application of its forces to dramatic expression, you will like it for singing as well as I do. But never forget that true appreciation of a science comes only from a thorough mastery of it.

Notwithstanding my enthusiastic desire for the singer to study and practice his language with indefatigable zeal, I do not, as a rule, begin cultivating the voice with articulation. The idea that the singer must first be trained as an elocutionist originated with Richard Wagner. I agree with him in all that he ever uttered in order to impress upon German vocalists the necessity of thorough study and practice of their language. Wagner's merit in this direction is great; in fact, it is owing to him that so many German singers — especially artists of the Wagnerian operas — are models in the correct and artistic use of their language.

I also acknowledge that articulation-exercises are a great help in cultivating the voice itself; still I do not sanction the practice of beginning vocal culture with articulation, but rather with simple vocalization upon the pure vowels. The important work of the slow relaxing of the lungs and the control and economy of breath can be learned easier with a sustained tone than by means of abrupt sounds or explosives. Besides, whatever faults of tone-production a pupil may have, their observation is made easier and the remedy can be better applied during sustained tones. Therefore, I begin vocalizing upon the pure vowels.

§ 44. *On What Vowel shall Tones First be Practiced?*

The old Italian masters invariably used the vowel *aa* for this purpose. Julius Hey makes this appropriate remark: "It does not happen by chance merely that the singing-methods of every nationality begin with the vowel *aa*. It is, beyond doubt, the easiest one, as the first lingual utterings of an infant are upon this vowel-sound."

Some modern teachers, however, substitute *á*. Others advise exclusive practice on *ee*. A few authorities insure for themselves the

unenviable reputation of originality by beginning voice-culture on the vowel *oo*. This last-mentioned system of voice-training is very objectionable, for with it a pure, clear tone is next to impossible on account of the unfavorable position of the mouth-cavity. Voices, therefore, that have been trained on *oo* sound thick and dark-shaded, more like the gloomy tone of an oboe or clarinet than the clear ring of a human voice. *Oo* ought not to be practiced before a singer is well skilled in all other vowel-sounds. I cannot think of any case where training upon *oo* for first practice could be anything but detrimental to a clear, ringing tone. If practice on a naturally dark vowel seems advisable for a beginner in order to break him of the habit of taking tones too open, which is especially disagreeable when the false vocal ligaments are forced to co-operate with the real ones, I should prefer exercises on *o* instead of *oo*. The vowel *ee* would be better yet.

What about the other systems? Which is right, the advocates of *aa*, *â* or *ee*? I believe they make the mistake of establishing one system and forcing all voices into it, instead of adapting the system to individual cases. If I were asked on which vowel a pupil can best and easiest cultivate his voice, I would answer: "Let me examine the case and I will tell you." Still, even in individual voices, the same vowel-sound cannot always, at the start, be used for each range of tones. Those teachers who have but one rule for all cases of voice-building will, invariably, do more harm than good, and will ruin more voices than they cultivate. A blind hen that accidently found a grain of corn somewhere, would starve to death if she depended upon that spot for her future supply. A teacher who came across a principle that answered very well in one instance, would only show his onesidedness and inexperience if he thought that this one grain of wisdom would supply all individuals.

As a rule, it is safe to start a female singer on *aa*, and a male singer on *aw*. Quite often it is practicable to use both alternately. If a voice has bad qualities, it should be examined carefully to ascertain on which vowel these bad qualities show themselves the least; and this vowel is the one to begin with. The help gained from pure tone-production on this vowel will aid the pupil materi-

ally in overcoming the difficulties on others. It may often be found best to let a beginner do humming exercises only, in order to teach him to use the throat rightly.

§ 45. *General Rule for Tone-Production.*

The pupil should study the art of breathing and practice the breathing-gymnastics thoroughly, at least as far as Ex. X., before any attempt is made at tone-production. The breathing-gymnastics should prepare the muscles for every succeeding step.

I have said in Section 36 that it is impossible to establish a general rule. I therefore explain the heading of this section by stating that I have in mind a young singer, a good mezzo-soprano, with no faulty habits of tone-production except the common trouble of the break on F♯. On seven half steps, from medium G to the fifth above, we detect no bad tone. I now tell her:

1. Take breath as in General Rule;
2. Retain the breath a little while; and,
3. Sing B♭ on third line in treble clef moderately loud on the sustained vowel *aa*, observing the exact muscle-action as described in General Rule, Section 25, for the slow relaxing of the lungs, and as practiced in Ex. IX. of the Breathing-Gymnastics. It is of great help to do this in Position IV., Fig. 6. Afterward do Ex. II.
4. Take great care to hold every part of the throat, neck and all surrounding parts of the resonance-cavities, especially the chin and tongue-bone muscles, perfectly relaxed.

This must be observed by every singer. The practical teacher will have to add much more advice in order to treat individual cases satisfactorily. This refers particularly to the tones to be sung.

5. The tone must be sustained as long as the breath lasts.

I refer, of course, to the singing-breath. As soon as the tone becomes even slightly unsteady, it should cease.

§ 46. *The Terminating of a Tone.*

This is very important. No matter how well a tone has been sung, if its termination is bad the effect is marred. A common fault with singers is that they give a push to the tone at its ending,

as if it were kicked out. The best rule for the clean finish of a tone is: Break it off without any effort whatever, simply by holding the breath for a moment. The habit of kicking the tone away is bad enough if done by one singer; but its ludicrous effect is greatly increased when a body of singers so violate good taste. Close attention and repeated reminding are necessary in order to get rid of this habit. Guard also against dropping the pitch.

§ 47. *Sustained Vocal Exercises on One or More Tones.*

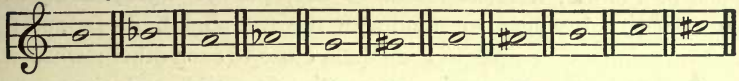
There is a difference of opinion regarding the proper exercises for starting a vocal pupil. I will mention two, namely, long, sustained tones in one long breath, and short tones with a fresh breath for each tone. I know of no satisfactory reason for beginning with short tones. We are told that they are recommended because the pupil has not yet sufficient breath for sustained tones. Short breaths and short tones will never enable a pupil to take long breaths or to sing sustained tones. Both are learned by one method only, namely, by taking as long a breath as you can conveniently, and by sustaining one tone as long as the singing-breath will permit. The longer you practice this, the more perfect will you become. Likewise, the earlier it is begun, the sooner will it be learned. With my method, it is useless to begin vocalization with short tones; for, when the pupil has gone through a thorough breath-education, he will be able to sing a sustained tone better than another pupil will after six months' vocalization without breathing-gymnastics.

Our mezzo-soprano may now begin vocalizing upon the vowel *aa*. She should again picture to herself the correct position of the mouth for this vowel-sound. Her first practice consists of sustained tones for fifteen minutes three times a day. The taking of the breath, the holding of it a little while, the muscle-action during the emission of sound, and the position, are as indicated in Ex. IX. and Fig. 6.

Take a full breath, hold it a little while, then sing, neither too loudly nor too softly, the following tones, holding each as long as the breath lasts.

Sustained Tones.

Example 1.



aa, aa, aa, aa, aa, aa, aa, aa, aa, aa, aa.

After each sustained tone do Breathing-Exercise II.

When some control of the muscle-action and of the voice is gained, the sustained tones should be sung more softly. Finally, they should be sung pianissimo. This soft, sustained tone-practice should form part of a singer's daily work during his entire professional life.

Practicing in Front of a Mirror.

The vocalist should, for years, stand before a mirror large enough to reflect his whole figure while practicing. The majority of singers have great difficulty in acquiring perfect control over the movements of the lips, tongue, chin, etc. These parts persist in doing just the opposite of what is wanted of them. The singer should watch not only his mouth, for the exact molding of the vowels, but also his whole face and, in fact, his whole body and all its parts. Therefore, it is advisable for an artist to practice in front of a mirror, in order to avoid forming disagreeable habits in the position and the movements of the body. Every singing-teacher knows how easy it is for a pupil to contract a bad habit, and how difficult to get rid of it. In all cases, prevention is better than cure.

1. Avoid all rhythmical and parallel movements as, for instance, swinging the body backward and forward, or from side to side; continuously changing the weight of the body from one foot to the other; frequent reversing or shifting of the music from one hand to the other; consecutively raising or lowering the head or eyelids; beating time with the foot; quivering of the limbs, etc. The oftener such movements follow one another, the more ridiculous do they appear. These movements are not offensive in themselves, but they should not follow each other monotonously. But the pupil should not go to the opposite extreme of arranging the motions according to a fixed program.

2. Avoid stiffness of the body or of any part of it. It is un-

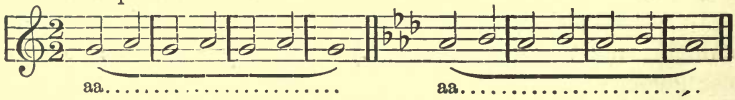
pleasant to see a singer on the stage in an attitude resembling a pillar or a block; it looks idiotic to keep the eyes fixed, staring at one place; it is vulgar to stand with the feet and limbs far apart, and it resembles a corpse to keep them close to each other; while it looks silly to hold the head persistently on one side. A singer appears arrogant if he holds his head too high, and too modest if he bends his chin upon his chest, with the eyelids almost closed.

3. Avoid distorting the face by unnatural twists of the lips, nostrils, eyelids or other muscles. Do not draw the skin of the forehead into wrinkles, frowns or scowls.

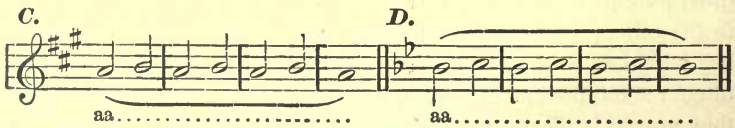
Two Tones in Succession in the Interval of a Major Second.

We come now to the practice of two tones in the interval of a major second. The pupil must be very careful to begin each tone sharply, but not with force, exactly upon the pitch, and pass from the first to the second tone without slurring; but be sure, by making the passage distinct, to avoid the aspirate *h*. This would cause the laughable mistake of singing *haa*, *haa* or *haw*, *haw* instead of *aa* or *aw*. Also, be very sure that the larynx moves freely up and down without the least restraint. In other respects do the same as before: Take a full breath, retain it a little while, and, during singing, observe the method of relaxing the lungs, with which you are familiar.

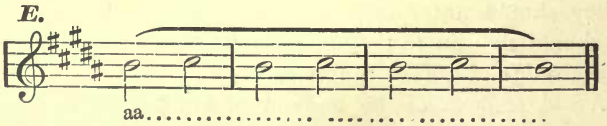
A. Example 2. *B.*



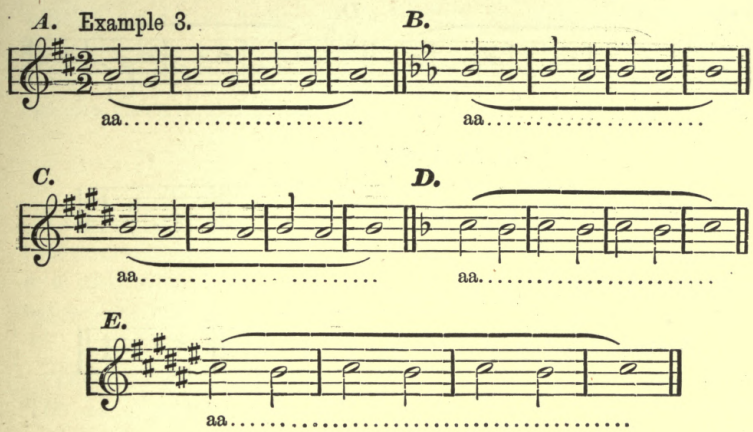
C. *D.*



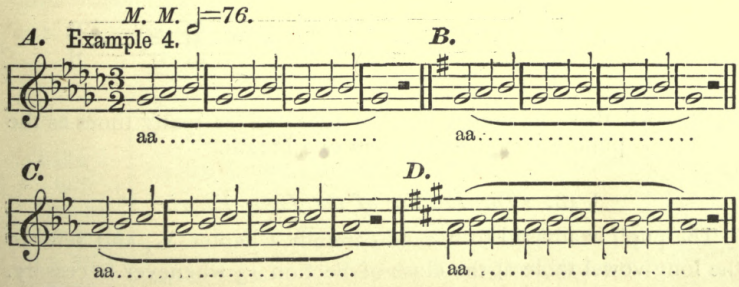
E.



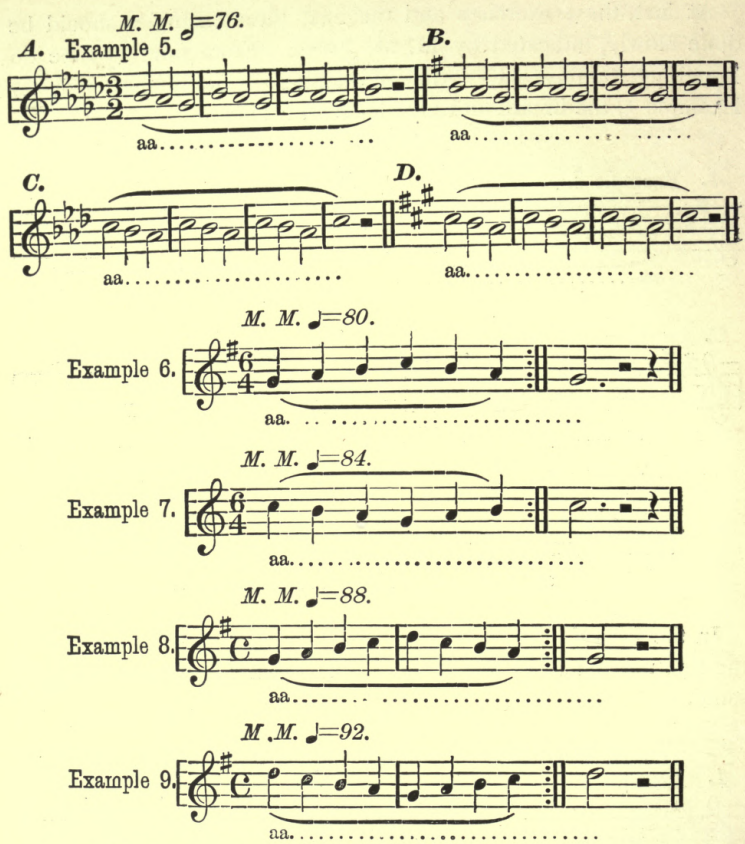
At first, these exercises and the next three examples should be done slowly, indicated by M. M. ♩=72. From time to time do Breathing-Exercise II. After Example 2 is fairly mastered, try Example 3, the breath and muscle-action as before.



In the following exercises great care should be taken in regard to the free movement of the larynx. The other directions remain the same.



As far as breath-taking and muscle-action are concerned the directions given remain the same for the following five examples.



N. B.—All these examples may be repeated as many times as the pupil can conveniently in one breath.

§ 48. *The Practice of the Long Vowels.*

The pupil is advised to re-read carefully Chapter X., and refer to the long-vowel table at the close of Section 43 whenever necessary. Breathing-Gymnastics XIII. and XIV. must be mastered before beginning the following exercises. The long vowels should be practiced at first with the speaking-voice only, in a moderately loud

tone; but be sure not to overdo. If the muscles of the throat or the movable parts of the resonance-cavities seem to stiffen, practice with the whispering-voice at first.

The directions for all the following vowel and articulation-exercises are: Take a full breath according to General Rule (Section 25). Hold it a little while, then speak the exercise with the breathing-muscles acting as explained in Section 27, and as practiced in Breathing-Exercise XIV. This action I name the "diaphragmatic push." Between the exercises do Breathing-Gymnastic II. Modulate the voice at every vowel.

FIRST PRACTICE.

Take a full breath, and hold it a little while before each line.

aa,	aa,	aa,	aa,	aa,	aa.	
â,	â,	â,	â,	â,	â.	Do Breathing-Exercise II. after each line.
ee,	ee,	ee,	ee,	ee,	ee.	
aw,	aw,	aw,	aw,	aw,	aw.	
ō,	o,	o,	o,	o,	o.	
oo,	oo,	oo,	oo,	oo,	oo.	

The first three vowels are a brighter color than the last three. The *aa* is usually conceded to be of neutral color, holding the middle place between the bright and the dark colors. Still I prefer to practice it with the *â* and the *ee* together.

SECOND PRACTICE.

Take breath, and use the diaphragmatic push of the tone as previously advised; do this at each of the succeeding exercises unless otherwise directed.

Take a full breath and hold it a little while.

I. Bright Colors.

aa, â, ee, â, aa, ee,
â, ee, aa, aa, ee, â,
ee, aa, â, ee, â, aa,

II. Dark Colors.

aw, ō, oo, ō, aw, oo.
ō, oo, aw, aw, oo, ō.
oo, aw, ō, oo, ō, aw.

III. Bright and Dark Colors.

aa, â, ee, aw, ō, oo, aa, â, ee, aw, ō, oo.
aa, â, ee, aa, aw, ō, oo, aw, aa, â, ee, aa.
aw, ō, oo, aw, aa, â, ee, aa, aw, ō, oo, aw.

Muscle action as in the preceding exercise. Do Breathing-Exercise II.

THIRD PRACTICE.

The following combination tables of vowels are to be practiced in exactly the same manner as the preceding ones:

I.

aa,	oo,	â,	ō,	aw,	ee,
â,	aw,	aa,	oo,	ee,	ō,
ee,	ō,	oo,	aa,	â,	aw,
aw,	â,	ee,	aa,	oo,	ō,
ō,	ee,	aw,	oo,	aa,	â,
oo,	aa,	ō,	â,	ee,	aw,

II.

ō,	aa,	aw,	ee,	â,	oo.
aw,	ee,	oo,	ō,	aa,	â.
oo,	ee,	aa,	aw,	â,	ō.
â,	aw,	ee,	aa,	ō,	oo.
aa,	oo,	â,	aw,	ō,	ee.
ee,	aw,	oo,	â,	aa,	ō.

III.

aa,	ee,	ō,	oo,	aw,	â.
â,	oo,	aw,	ee.	ō,	aa.
ee,	ō.	aa,	aw,	oo,	â.
oo,	aa.	â.	ō,	aw,	ee.
aw,	â,	oo,	ee,	aa,	ō.
ō,	aw,	ee.	aa,	â,	oo.

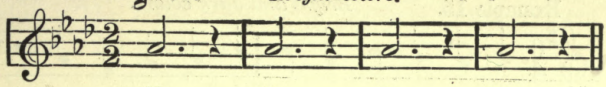
FOURTH PRACTICE.

These vowels may now be practiced with the singing-voice. Each line of vowels is to be sung with slow movement, in one breath. Otherwise, the rules remain the same as given at the close of Section 47 and at the beginning of Section 48. Do not forget to take a full breath before each line of vowels and to hold it a little while, and in singing use the muscle-action of Ex. IX. Pass from one tone to the other without slurring or jerking, and avoid all aspirations. During the practice, repeat at intervals Breathing-Exercise II.

In Example 10 the breath should not be renewed at the quarter rests; sing the four measures in one breath, and hold the air during the rest.

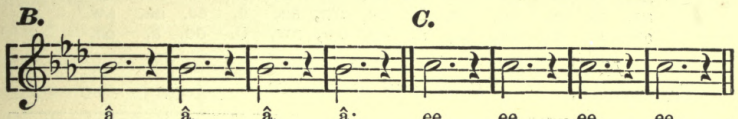
A. *M. M.* ♩=76. *Bright colors.*

Example 10.



aa, aa, aa, aa;

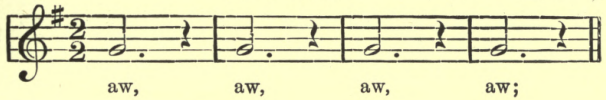
B. **C.**



ê â, â, â; ee, ee, ee, ee.

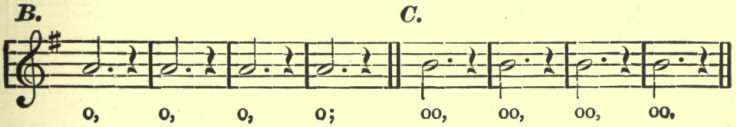
A. *Dark colors.*

Example 11.



aw, aw, aw, aw;

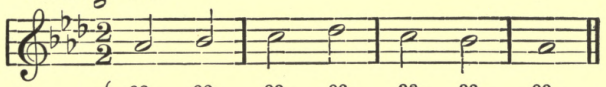
B. **C.**



o, o, o, o; oo, oo, oo, oo.

M. M. ♩=76.

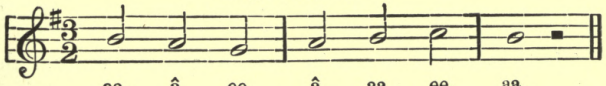
Example 12.



Bright colors.	aa,	aa,	aa,	aa,	aa,	aa,	aa.
	â,	a,	a,	a,	a,	a,	a.
	ee,	ee,	ee,	ee,	ee,	ee,	ee.
Dark colors.	aw,	aw,	aw,	aw,	aw,	aw,	aw.
	ō,	o,	o,	o,	o,	o,	o.
	oo,	oo,	oo,	oo,	oo,	oo,	oo.

Bright colors.

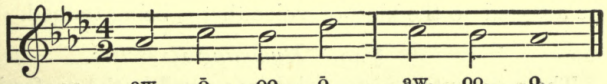
Example 13.



aa,	â,	ee,	â,	aa,	ee,	aa.
â,	ee,	aa,	aa,	ee,	â	ee.
ee,	aa,	â	ee,	â,	aa,	â.

Dark colors.

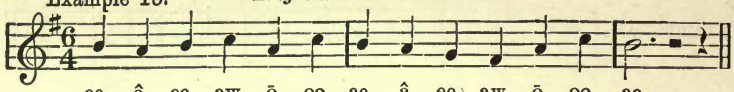
Example 14.



aw,	ō,	oo,	ō	aw,	oo,	o.
ō,	oo,	aw,	aw,	oo,	ō,	aw.
oo,	aw,	ō	oo,	ō,	aw,	oo.

M. M. ♩=80.

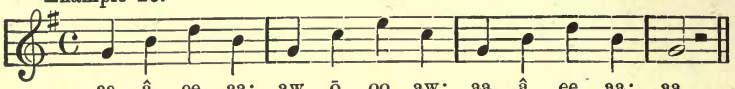
Example 15. *Bright and dark colors.*



aa, â, ee, aw, ō, oo, aa, â, ee, aw, ō, oo, aa.
aa, â, ee, aa, aw, ō, oo, aw, aa, â, ee, aa, aw.
aw, ō, oo, aw, aa, â, ee, aa, aw, ō, oo, â, aa.

M. M. ♩=80.

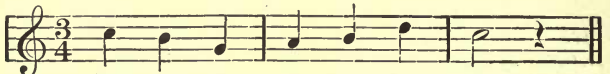
Example 16. *Bright and dark colors.*



aa, â, ee, aa; aw, ō, oo, aw; aa, â, ee, aa; aa.
aw, ō, oo, aw; aa, â, ee, aa; aw, ō oo, aw; aw.

M. ♩=76. *First Combination Table.*

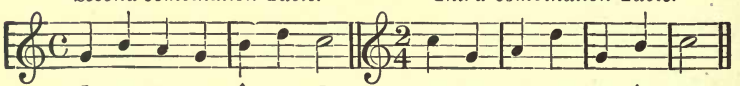
Example 17.



aa, oo, â, ō, aw, ee, aa.
â, aw, aa, oo, ee, ō, â.
ee, ō, oo, aa, â aw, ee.
aw, â, ee, aa, oo, ō aw.
ō, ee, aw, oo, aa, â, ō.
oo, aa, ō, â ee, aw, oo.

Example 18. *Second Combination Table.*

Example 19. *Third Combination Table.*



ō, aa, aw, ee â, oo, ō.
aw, ee, oo, ō, aa, â, aw.
oo, ee, aw, â ō, oo, â.
â, aw, ee, aa, ō, oo, â.
aa, oo, â, aw, ō, ee, aa.
ee, aw, oo, â, aa, ō, ee.

aa, ee, ō, oo, aw, â, aa.
â, oo, aw, ee, ō, aa, â.
ee, ō aa, aw, oo, â, ee.
oo, aa, â, ō, aw, ee, oo.
aw, â oo, ee, aa, ō, aw.
ō, aw, ee, aa, â, oo, ō.

These exercises, as can be readily seen, are written almost entirely for the small medium range. As soon as the pupil has acquired sufficient control over the vocal registers, then these exercises should be transposed to higher and to lower keys. The key should always be adapted to the kind of voice that is being trained.

§ 49. *Humming Exercises.*

The most antagonistic opinions prevail in the profession in regard to the value of humming exercises. The great majority of teachers

consider them dangerous to the throat and apt to lead to the habit of nasal singing. The small minority of teachers consider them exceedingly useful. I have never been opposed to them. Many years ago I resorted to them if a pupil had difficulty in gaining the throat-facility necessary for a trill. At that time, however, I was afraid to make use of them in the highest range of voices; but I have long since changed my mind in this respect. What is the reason that so many teachers oppose humming exercises? Many are one-sided. What their teachers did not do they will not do, and they are not sufficiently progressive to work out a better method for themselves. Others have, by some means, become prejudiced against them. While I acknowledge that some singers have contracted serious throat-troubles and the habit of nasal singing from humming, still it was because they did not know how to hum. The most dangerous method of humming is attempting staccato practice as a humming exercise. This cannot be done without straining the throat, which will lead, necessarily, to throat-troubles. I warn vocal students under no circumstance to attempt to hum staccato tones. I also warn pupils not to hum too loudly, as this will induce the habit of nasal singing; also, not to allow the least strain in the throat, as this invariably leads to throat troubles. Outside of this, humming, if correctly done, is not only harmless, but very beneficial, as will be seen later.

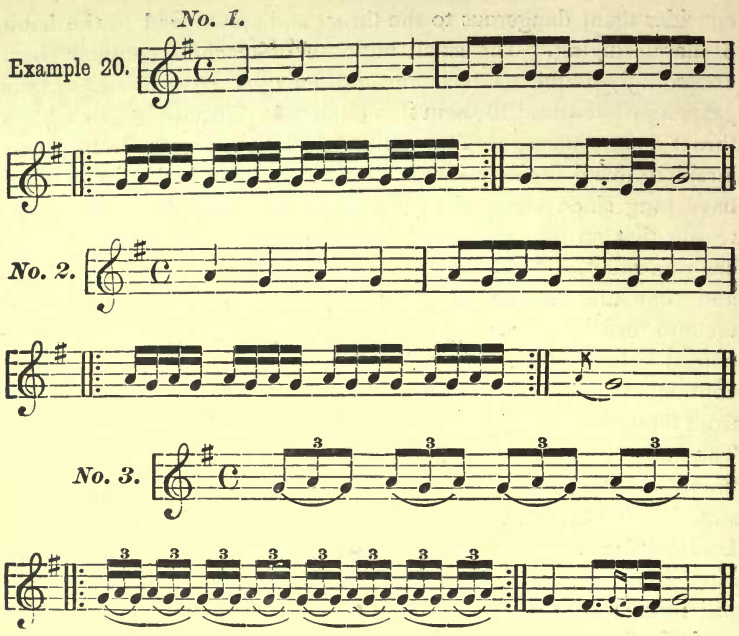
Examples 1–5 can all be used for humming. Besides these, in every collection of so-called colorature studies—i. e., exercises for the flexibility of the throat—are exercises that can be successfully used for humming. Such are Bonaldi's and Mme. Marchesi's vocal exercises.

A very useful humming practice, which can be introduced early in the student's work, is the

Practice of the Trill.

This book is not the place to treat of this most brilliant side of colorature from any other than the elementary standpoint. The following exercise for humming I have adapted from Ferd. Sieber's *Lehrbuch der Gesangskunst:*

Example 20.



Transpose this exercise, according to the requirements of your voice, to higher and lower keys.

Sing the numbers 1, 2 and 3 in succession in each key, before passing to the next key.

Take breath, and do Exercise II., from time to time, as advised previously.

How Humming Should be Done.

Constant attention should be paid, first, to the nose, and, secondly, to the throat in front of the larynx and to the tongue-bone. In regard to the first, be careful that the humming is done so softly that no vibration can be felt in any part of the nose, especially at the bridge of the nose. Such soft humming can never lead to the forming of the habit of nasal singing. It will even break a person of the habit of singing nasal. (Compare Section 58.) Let the

throat be completely relaxed, especially at the two places mentioned, namely, in front of the larynx and upward. If humming is done without the slightest strain in the throat, it will never cause sore throat or any other trouble, except if done as staccato practice, as just remarked. All humming exercises should be done alternately on *m*, *n* and *l*.

Humming Exercises are very Beneficial.

1. They make the throat more flexible. It is a peculiar fact that the precise movements that the larynx makes up and down between an ascending and a descending tone in the interval of a major or minor second, can be felt far more distinctly in humming than in singing. It does not take as long to make the throat flexible by humming as it does by regular vocalization.

2. It is especially beneficial in all cases of habitual stiffening of any part of the throat or chin. Of this, however, I shall speak in detail when treating of faulty habits in tone-production and their remedy. I may say here, however, that I think any singer will be benefited by humming, if done as has been indicated.

3. Soft vocalizing has always been considered the most important and beneficial practice for the beginner and the finished artist alike. Humming is less fatiguing than soft singing; consequently, a singer can give more time to its practice without getting tired. It has also the advantage of disturbing nobody.

4. Finally, humming exercises are recommended because a singer can practice them upon all the tones of his compass, no matter what faults or difficulties he may have to overcome before he can use regular vocalizing. Our mezzo-soprano pupil, for instance, can be allowed, at present, to sing very few tones in the medium range; yet she is permitted to do humming exercises throughout the entire compass of her voice.

§ 50. *Swell-Tones.—Messa di Voce.*

This practice, if judiciously done, is one of the most effective means for the cultivating of the voice. After our mezzo-soprano has gained satisfactory results with sustained tones and vowel-prac-

tice, she may begin at once the study of swell-tones. "In regard to the necessity of this practice there is no disagreement among singing-masters," as Mr. H. Ruff remarks; still they differ widely in regard to the time when the student should begin it. Some would rather give them many other exercises and scales, the practice of the intervals, even runs and trills in all dynamic grades, without thinking that these exercises will be the more difficult of execution if the student has not acquired the power of sustaining tones with purity, and of swelling them with sufficient control of breath, together with a sure, yet not harsh, tone-attack. Who would teach a baby first to dance in order that it might easier learn to walk, or even to stand on its feet! Our pupil is advised to use, for the present, only the ten tones of Example 1 for the swell-practice.

The study of swell-tones should be preceded by Breathing-Gymnastics XVI., XVII. and XVIII., and the vocal practice taken up in exactly the same order and with the same muscle-action; first, the crescendo in one breath; after this is satisfactorily done, the decrescendo is practiced; and, finally, both together in one breath. It is almost superfluous to add that the *messa di voce* should be practiced by degrees on all the long vowels.

In many cases I have found it expedient to let the pupil practice the repeated swell before attempting the long swell. The repeated swell is done as follows: Begin the tone very softly, swell it to little more than half its strength and immediately decrease it. Repeat as many times as you can easily in one breath, perhaps three or four times. The vowels should be changed in this exercise, either at every renewal of the breath or at every repetition of the half swell.

I add a couple of hints, to prevent certain bad habits that might be contracted during the practice of the swell. The position of the mouth must never be changed during a *messa di voce*. Some singers are in the habit of opening the mouth more and more during the crescendo, and of closing it gradually during the decrescendo. This changing of the mouth-position causes a varying shading of tone, which spoils its beauty. If a singer, in practicing the repeated swell, thus opens and closes the mouth every time the swell is reproduced, the point of the tongue will move downward as often as the

mouth opens, and upward again as the lips approach each other, which action, as often as it is repeated, causes a distinct "y" to be pronounced—I mean "y," the subvocal, as *y* in *yoke*—producing a ridiculous effect.

In laying down the rule to keep the mouth open and unchanged during a swell, I do not mean to condemn that most difficult but beautiful diminuendo, which only advanced singers may study, where the lips are allowed to approach each other gradually, so that at the end of the diminuendo they have the position of a gentle, sweet smile, whilst the mouth-cavity, through the control of the muscles surrounding it, i. e., the lips and cheeks, is sufficiently expanded so that the tone receives from the gradual closing of the lips a most pleasing and delicate charm, instead of a blurred shading. Frequently, during the practice of the swell, the singer contracts the disagreeable habit of sharping a tone during the increase, or of flatting it during the decrease. The teacher should be very strict in correcting these faults, and the student should watch closely not to contract, or if contracted, speedily to rectify, the habit. In the practice of the swell, the student should take care not to overdo in attempting to gain a powerful tone, nor in the length of time in which he studies it daily; and he must not extend it to the highest nor to the lowest tones of his compass. Only by degrees should he attempt these tones with the *messa di voce*.

§ 51. *Additional Hints in Regard to the Treatment of Various Voices.*

The rule to begin voice-development with the easy medium range must always be adhered to. But, what exercises should be given to different pupils? Generally speaking, the same exercises, beginning with Example 1, will be found practicable for all. This does not contradict the statement that no two voices can be treated alike. Every one will have to study the same chapter upon the art of breathing, and practice the same breathing-gymnastics. But in regard to the positions in which to do them, individual peculiarities must be considered, and many deviations from the order of exercises will be found necessary. The teacher will find that the easy

range of tones varies considerably in different cases, necessitating a transposing of the examples to different keys.

Again, bad habits vary in nearly every pupil. The teacher should look out for them from the beginning; for if misunderstood, or not eradicated at once—if the battle with them is not begun with the first step in tone-production and sometimes even in connection with the breathing-gymnastics — they will grow; and the longer they grow, the more difficult will they be to overcome. This of itself necessitates variations in the examples. They may have to be hummed for some time; and when at last they can be sung, it is important to decide which vowel suits the peculiarities of the case, in what dynamic quality of tone they should be sung, etc.

It is sometimes injurious for a pupil to use certain vowels in exercising at the first. Again, it may be found that the vowels should be practiced for some time in a whisper only; otherwise the pupil will stiffen parts of the mouth or throat. It is unnecessary to enter into further particulars here, as Chapter XIII. treats of vocal defects and how to overcome them.

§ 52. **The Practice of the Short Vowels and the Staccato.*

Generally, the vocal teacher finds it more advisable to leave the study of the short vowels to a later period, namely, after the equalization of the registers. In itself, I find nothing injurious in the practice of the short vowels and those staccato exercises that do not exceed the range of the examples thus far used for our mezzo-soprano pupil; but the removing of breaks in the voice, thus enlarging the compass, is so important that I should rather postpone this paragraph until the equalization of the vocal registers is understood, and the voice has become even. However, since this chapter is devoted to tone-production upon the single, pure vowels, it is better to treat the short vowels now; and as they cannot be separated, in vocalizing, from the so-called staccato practice, I insert that also in this place, advising the student not to practice it until his voice is thoroughly equalized. If taken up now, it might retard his progress.

The pupil should re-read carefully Section 43 before beginning work. In the Second Practice, he should pay close attention to

* Compare § 43, p. 136.

rapid and correct changing of the mouth-position at every change of vowel. Care should be taken, especially in the high tones, to sing every note in true pitch.

FIRST PRACTICE.

Take breath as in General Rule; hold it a little while; then, using the muscle-action explained in Section 27, do the following exercise—every line occupying one breath. Make each vowel short, with a precise throw of the diaphragm as practiced in Breathing-Gymnastic XIV., and take care not to permit stiff or hard throat-action. Between each vowel, pause for about one second.

Take a full breath and hold it a little while.

ă, ă, ă, ă, ă, ă, ă, ă, ă, ă.
ĕ, ĕ, ĕ, ĕ, ĕ, ĕ, ĕ, ĕ, ĕ, ĕ.
ĭ, ĭ, ĭ, ĭ, ĭ, ĭ, ĭ, ĭ, ĭ, ĭ.
ŏ, ŏ, ŏ, ŏ, ŏ, ŏ, ŏ, ŏ, ŏ, ŏ.
ŭ, ŭ, ŭ, ŭ, ŭ, ŭ, ŭ, ŭ, ŭ, ŭ.
o͝o, oo, oo, oo, oo, oo, oo, oo, oo, oo.

Do Breathing-Exercise II.

SECOND PRACTICE.

In practicing this, follow the directions given for the preceding exercise.

I.

ă, ĕ, ĭ, ŏ, ŭ, o͝o, ă, ĕ, ĭ, ŏ, ŭ, oo.

II.

ă, ŭ, ĕ, ĭ, ŏ, ĕ, o͝o, ă, ŏ, ĭ, ŭ.
ĕ, ŏ, ă, ŭ, ĭ, o͝o, ĭ, ĕ, ă, ŭ, ŏ.
ĭ, ŭ, ŏ, ĕ, ă, ŏ, ĭ, ŭ, ĕ, o͝o, ă.
ŏ, ĭ, ŭ, ă, o͝o, ĕ, ŭ, ŏ, ĕ, ă, ĭ.
ŭ, ĕ, o͝o, ĭ, ŏ, ŭ, ă, ŭ, ĭ, ŏ, ĕ.

III.

ĭ, ŭ, ĕ, ŏ, ă, ŏ, ă, ŭ, ĭ, o͝o, ĕ.
ŏ, ă, o͝o, ĭ, ŭ, ĕ, ŭ, ĕ, ă, ŏ, ĭ.
ŭ, ĭ, ă, ĕ, ŏ, ă, ĭ, o͝o, ĕ, ŭ, ŏ.
ă, o͝o, ĕ, ŏ, ĭ, ŭ, ĕ, ŏ, ĭ, ă, ŭ.
ĕ, ŏ, ŭ, ă, ĭ, o͝o, ĭ, ŭ, ŏ, ĕ, ă.

Staccato Vocalizing.

Porpora is recorded as having been opposed to staccato practice, believing that it was liable to make voices harsh. I hold a contrary opinion, provided the singer does it correctly. All staccato practice should be done very softly and with perfect ease, without the slightest harshness of attack in the glottic stroke, adhering strictly

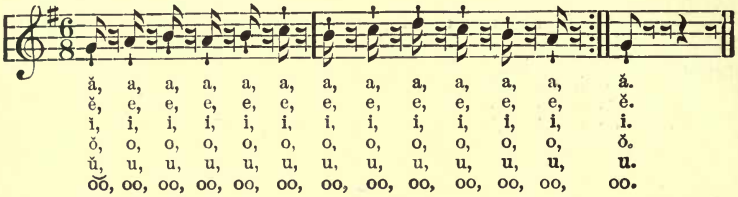
to the muscle-action described and practiced in Breathing-Exercise XIV. This muscle-action makes it comparatively easy to avoid hardness of attack in the throat. Let the throat alone, and allow the breathing-muscles to do the work, is the all-important rule for the singer and the speaker.

I again warn against doing staccato exercises as humming practice. I can hardly conceive of anything more injurious to the throat than this.

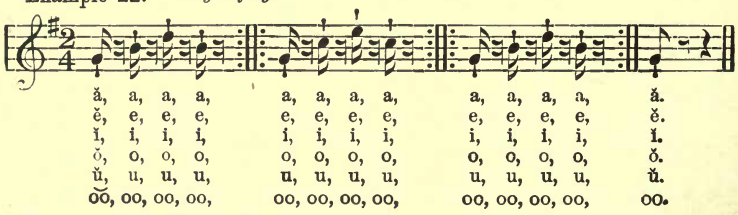
THIRD PRACTICE.

Staccato Exercises with the Short Vowels.

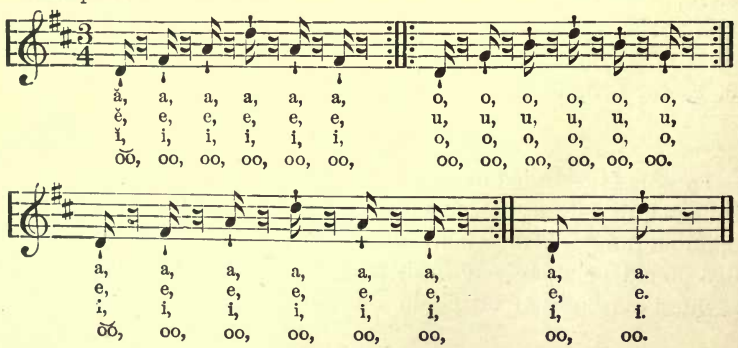
Example 21. *Very softly.*



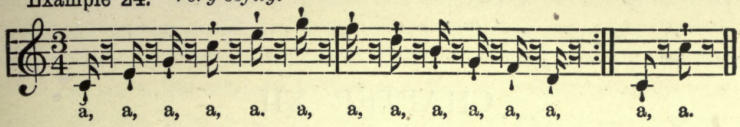
Example 22. *Very softly.*



Example 23. *Very softly.*



Example 24. *Very softly.*



During Example 24 the vowels may be changed, practicing it three times in one breath.

REMARK.—All these exercises should be transposed to lower and higher keys; this and the metronome time must be decided by the teacher.

CHAPTER XII.

THE VOCAL REGISTERS OR BREAKS, AND HOW TO EQUALIZE THEM.

The remark is not infrequently heard: "There are no vocal registers!" I wonder if those that say this really know what is generally understood by the term "register?" This term has various meanings; but its application is undoubtedly taken from the grand organ, in which sense it means a set of pipes which the organist governs by a sliding arrangement called a stop, thus either admitting the wind to, or shutting it out from, a set of pipes.

In its usual, though wrong, application to the human voice, the term register means a certain manner of producing a number of tones belonging to the various ranges of a voice, so that each range has a distinctly different sound from the other. Occasionally, we find a voice that is naturally even throughout; but in the great majority of voices the registers can be easily detected. Why, then, say that there are no registers in the voice? Some teachers being startled by the bold assertion "there are no registers," and yet being unable to convince themselves of its truth, discard the word "register," and substitute the term "break." This leaves the case just where it was before; for it is undeniable that registers or breaks or whatever other name you give them are found in almost every voice, even if somebody's ear is not musical enough to detect or abhor them. But one thing is certain, namely, that breaks or registers ought not to be noticed in a cultivated voice.

One of the most important and, frequently, most difficult tasks of the singing-teacher is to obliterate the registers, or, in other words, to equalize the transition from one range of tones to another, so that not the slightest vocal break or unevenness can be detected.

The word register, therefore, does not necessarily denote something which a teacher should be ashamed to mention, as some modern wiseacres would have us believe. Our attention is forcibly directed to them, since the modern Italian and French schools declare that these terrible breaks or registers should be cultivated in every singer—at least in every female singer; while, for the male voice, some of them go to the opposite extreme and admit no registers. I repeat: *There are and must be registers in both the male and the female voice, because there is no voice without a lower, a middle and an upper range of tones. But the transition from one to the other should be so gradual and equal that it cannot be noticed.* This is the signification of vocal registers and their equalization.

What causes these troublesome breaks, that sound so disagreeable to a refined musical ear? I believe the real reason lies in the wonderful variety and number of the various departments which make up the vocal apparatus. In Vol. III., No. 2, p. 21 of *Werner's Voice Magazine*, is the query: "Who can assert and practically support the theory that nature put registers in the voice? Nature is too simple for such work. Man's mind might have absorbed this theory from musical instruments."

I am sure that man's hand has not done it; for in spite of the many extravagant theories in regard to vocal registers, not even the most enterprising voice-manufacturer has ever arranged a singer's throat with regular organ-stops, although we often hear singers use their voices in unequal timbres, as if they pulled an organ-stop not only on three different points, but on every tone of their compass. How could man's mind have absorbed this theory from musical instruments? I know of no musical instrument that can produce tones as unequal as a voice trained by the three-register system. The grand organ, to be sure, has stops; but each stop is a perfect instrument in itself, with one set of even tones. We may say, then, that the term register, as taken from the grand organ, is perverted when applied to the French or the Italian interpretation of the term "vocal registers."

But, has nature really nothing to do with it? Is nature too simple for such work? "Nature pure and simple," used to be the stereo-

typed phrase of the commencement essay at young ladies' schools. However simple nature may be, when we look at her seeming extravagance in the construction of the various organs that constitute the vocal apparatus, we see at once that no musical instrument is so complicated. There is the diaphragm, which, in connection with the abdominal and intercostal muscles, enlarges the thorax, in order to make inflation of the lungs possible. This forms the motor power of the voice. The most complicated musical instrument invented by man, is the grand organ; the contrivance for its motor power consists of a single lever or a fly-wheel with a crank movement. The lungs, nature's product, are a wonderful system of thousands of smaller or larger tubes, each one lined with elastic mucous membrane. The bellows of the organ are nothing but a simple leather-bag or reservoir with one or two feeders and valves. The innumerable smaller tubes of the right and left lung lead upward by degrees until, at the top of the lungs, they form two tubes, one on each side, called the bronchi, both of these uniting and forming the trachea or windpipe, which is constructed of eighteen or twenty elastic cartilage-rings, disjointed at the back, but connected and surrounded with muscular formations in every direction, so that the windpipe may be contracted and expanded; the whole tube being covered with an elastic membrane, so that it can be lengthened or shortened.* The place of this ingenious air-conduit is taken in the organ by the simple wind-trunk. The larynx, or voice-box, with its manifold cartilages and muscle-pairs, and their mysterious operations in creating the vibrations of the vocal ligaments, is nature's greatest masterpiece. With it come into play the muscles of the tongue-bone, the epiglottis, the muscles of the pharyngeal region, the tongue, mouth, lips—all having, in more or less degree, some function to fulfil in tone-production. In comparison with this, what a simple and insignificant thing is an organ-pipe or reed? But we must not chide nature for her extravagance—this complicated machinery of hers produces a voice!

I now enter into the details of this subject; and, in order to treat it more understandingly, I make the natural distinction between female and male voices.

* Dr. Merkel, *Der Kehlkopf.*

§ 53. *The Registers of the Female Voice.*

"Who put registers there?" Let us ask a lady, with a voice cultivated according to the old Italian masters—which means a voice so well trained that no transition between the registers can be traced,—to sing the low treble C, and, while sustaining it, to hold her flat hand firmly on the upper chest. She finds the chest vibrating with strong oscillations, too numerous to count. If she sings the ascending scale of tones, she will find that toward the end of the first octave the chest-vibrations grow weaker and weaker, till, in ascending from the second C toward F, they cease altogether. We should bear in mind that her tones reach the middle and upper range without any break or unevenness, but we cannot help noticing that, when the chest-vibrations become weaker, and especially after they have ceased altogether, the higher tones are not only different from the lower ones in pitch, but also in tone-quality or in the peculiar ring of the tone. Mark again, that this difference is not noticed as a distinct change at a certain point, but comes on so gradually that one is hardly aware that a change has been effected.

Now, let us listen to the same series of tones sung by a lady trained according to the three-register system of the modern Italian school. As soon as she strikes the lower C, our ears are rasped by an uncouth, boyish sound, produced as if by the working of a secret spring, as a jumping-jack is let out of the box. This is the "chest-register" of the degenerate descendants of the old masters! The higher this terrible tone is carried the more disagreeable it sounds, like the rough cry of a street-arab. On G, however, as if by magic, a little, thin tone with a slight nasal twang is ushered in, which, frequently, sounds also quite hollow and gravelike. This is the "medium register" of the "signor" of the modern Italian school. Upon reaching D, our singer astonishes us with a new trick; a shrill yell reaches our ear, raised by the "head-register" of our modern "maëstro." How different from the former singer! What revolting tone-production! What is the cause of this? Has man's mind put something into this throat that nature left out in the former one?

I am not yet ready to answer. Let us examine deeper into the subject. We noticed that the tones of the first singer were beautiful and artistic, the tones of the second one offensive and uneven. That the reader may understand this correctly and clearly, I shall draw no line of distinction, not even an imaginary one. We will simply observe one of the lowest and one of the highest tones. When the first lady sings the low tone, she can feel, even with her hand, strong vibrations of her chest. They are caused by the air in the windpipe being made to vibrate with and by the oscillations of the vocal ligaments. This gives resonance to the tone, like the column of air beneath the sounding-board of a piano, when set into vibration by the oscillations of the air above, after the hammer has struck the wire. The musical instrument has only one sounding-board. Nature is not so simple. We have a resonance-chamber for the lower range of tones in the windpipe (whence the name of chest-tone, but not to be confounded with the street-arab's register).

Coöperating with this we have the resonance-cavity of the mouth, the pharynx and the posterior nasal tube for the middle and the upper range of tones, hence the name of medium and head-tones or registers. I beg the three-register teacher not to carry his mania for distinction of registers into this theory of resonance, nor to try to use his voice-sliders here; for there is no point nor line where we should be able to notice that one range of tones gets out of the way and by so doing foists in another. The change of the registers—ascending from the lowest to the highest tone or vice-versa—is effected by a gradual transition from one into the other. The same wonderful law of slow change and gradual transition we find in the whole muscle and cartilage-apparatus, whose function is to set the vocal ligaments into vibration. Upon observing the larynx of our first lady singer with a laryngoscope, we find these movements altering slightly on every successive tone. The larynx moves up a small degree each time the pitch is raised, which causes the windpipe to stretch. These gradual changes prevent the tones from becoming unwieldy stumps of a register in the sense of the modern Italian school, and develop the glorious oneness of all tones, which was the principal result of the training of the old Italian masters.

I am now able to answer the question "who put registers there?" The perverse, crude singer or teacher, who is unable to distinguish a musical from an unmusical tone, has put them there. The Italian and the French methods of our times have put registers into the human voice. But, above all things, let us bear in mind that nature is not a singing-teacher. She furnishes ample means for singers, but she, herself, does not train them. Therefore, whatever breaks and cracks are found in an untrained voice, or, what is worse, in a voice trained by the three-register system, we must impugn not nature, but the proneness of the human mind to make mistakes, and to abuse natural gifts.

§ 54. *How to Equalize the Registers of the Female Voice.*

I wish to call the attention of organists and directors of chancel-choirs to the important fact that a boy-treble should be trained and developed like a female voice, especially in regard to the equalization of the registers. This point choir-masters seem to be ignorant of, which accounts for the almost universal complaint of refined musical people that they find boy-singers as a rule have harsh, shrill voices; consequently, they do not feel the same pleasure in listening to them as in hearing a well-drilled mixed choir. The boy-treble has to be included under the above head-line.*

An experienced teacher, with a correct idea of a model tone, will find the diagnosis easy in individual cases. Besides, no matter how tedious the pupil may find the practice and how long she may have to work, the remedy for an average case is, as a rule, determined without difficulty. But to describe on paper *how* to do this is next to impossible. No other vocal trouble presents such a variety of individual peculiarities as does this. In no other branch of voice-culture does so much depend upon imitation and the living example. I shrink from the task, and would not attempt it if it could be avoided without making my book incomplete in an important feature. A complete, practical method for equalizing the vocal registers cannot be expected to be written. Therefore, I will give only such

* It gives me satisfaction to mention a recent little work, "Practical Hints on Boy-Choir Training," by G. Edward Stubbs, who holds a most rational view in regard to the vocal registers of the boy-singer. This book ought to do much good where there is great need of it.

general hints as can serve for a guide, by which a student, who has the power of thinking and some originality, may find a starting-point and decide for himself what to do.

It frequently happens that the tones of the lower range, or the so-called chest-tones, are forced up too high into the middle range. This bad habit is often contracted while the singers are quite young. Boy-trebles have this habit to an unendurable degree, usually screaming these horrible chest-tones up to middle C. Of all bad habits, this one is the most liable to injure a voice, and to detract from artistic singing.

I have met female trebles that used this means of forcing up the chest-tones as high as middle A, B, C and (one can hardly conceive of the physical possibility of so doing) even as far as D and E♭. The reason why this practice is so dangerous to the throat lies in the unnatural way in which the larynx is held down in the throat, and in the force that is exercised by the tension-muscles of the vocal ligaments and the hard pressure of the muscles of the tongue-bone. As the fixed-larynx system will be discussed in the next chapter, nothing further need be said about it here.

I have examined with the laryngoscope many ladies who had the habit of singing chest-tones too high, and without exception I have found their throats in a more or less diseased condition. Laryngitis either alone or complicated with pharyngitis, relaxation of the vocal ligaments, and sometimes paralysis of one of them, is the most frequent result of this bad habit. If a singer is affected with catarrhal trouble, it is always aggravated by this abominable method of singing.

The saddest case of this kind that ever came under my observation as teacher was that of the late Mlle. Aimée, the well-known French soubrette. She forced her chest-tones as high as E♭, fourth space, treble clef. At last she lost her voice entirely. It should also be stated that, in addition to her throat-trouble, she had a growth in her nose at the upper end of the posterior nasal tube, which undoubtedly greatly interfered with her singing-voice, especially with the head-register. As this is a very interesting case, and furnishes a strong argument in favor of my theory, I narrate it in detail.

Mlle. Aimée, after having lost her voice, had been treated by the most celebrated physicians in Europe and in America; but had received no help whatever until, finally, she consulted Dr. Henry Schweig, of New York. He located her trouble, and cured her entirely. Her lower tones came back, though they were exceedingly rough and unmusical; but her medium tones were not recovered. All tones that she attempted to sing in this range were small and husky, if they could be called tones at all. The three head-tones that she was able to produce were of a somewhat better quality, but very weak.

When Dr. Schweig saw that her voice did not improve, notwithstanding the improved physical condition of her vocal organs, he concluded that there must be some trouble outside the domain of the physician, and on which the singing-teacher might shed more light. He brought her to me for examination, and I soon diagnosed her case as total loss of the medium tones on account of forcing the chest-tones too high, and as the natural result of having sung so long with the larynx fixed at the lowest point in the throat. She also used high clavicular breathing, and, of course, took her breath habitually through the mouth.

I told her of a number of similar cases, where voices had been ruined by this dangerous three-register system. I explained that a soprano who produces such disproportionately strong chest-tones with a fixed larynx from her lowest tone to middle G must, as a natural consequence, weaken the most valuable part of her voice, namely, the medium range. When she sings a powerfully dramatic group of tones, which an operatic singer has frequent occasion to do, she will often feel disgusted at the weakness of her medium tones, and, in order to produce the desired effect, will force the chest-tones higher and higher. After a few years her medium range of tones is ruined; then the head-tones also become harsher and weaker, until, finally, the whole voice is gone. Mlle. Aimée said that this was exactly the history of her case, and asked if there was any hope of recovering her lost treasure. I replied that I was confident that she could, as my method of tone-production would restore such voices to full freshness. She took courage.

I must give, at this point, an exact description of her voice as I found it at this examination. I asked her to sing as loudly as she possibly could the natural series of tones upward, beginning with lower A. She sang the first seven tones with the rough, uncouth chest-tones, using all the force of which her throat-muscles were capable. On middle A a disagreeable, hard break occurred, ushering in a weak and insignificant medium range, A, B, C, D. They could not be called musical tones. The head-tones, E and F, were fairly good but faint. High G was reached only with great difficulty, if at all. This was the condition of her voice when I accepted her as a pupil.

I have never had a more intelligent, faithful student than was Mlle. Aimée. With her French vivacity she felt at times rather impatient at the slow progress, for there is no slower work in vocal culture than the restoring of a ruined medium register. She totally changed her method of breathing in two and a half weeks. During the practice of the breathing-gymnastics, particular attention was paid to keep her throat entirely flexible and free. Then began the slow process.

I. How to Equalize the Medium Range with the Chest-Register.

Mlle. Aimée's case was an exceptionally serious one. Therefore the method used to overcome her difficulties may serve as a living experiment and explanation. As the forcing of her throat-muscles and the fixed-larynx system were the principal bad habits left from her false method, at first I allowed her to sing only sustained humming tones as softly as possible, beginning with medium C, third space, treble clef, and chromatically down to the C below. Of course, the method and muscle-action, as practiced in connection with Breathing Exercise IX., were strictly observed. Two tones, with an interval of a major second (see Example 2), were next practiced as very soft humming tones. Her attention was drawn to the sharp and distinct movement of the larynx up and down at each tone. These exercises also were begun with medium C, and carried chromatically to the octave below. Then three whole tones

were practiced in the same way; then four tones and five tones, transposed in chromatic order to the C below, were thus hummed in succession. The major and minor scales, beginning with lower B♭, were hummed as softly as possible, with particular attention to the relaxed condition of the throat, and especially to the slight but distinct move of the larynx at every ascending and descending tone.

While these exercises were progressing, the artist was advised to attempt the following exercise: Take a full breath, hold it a little while, and begin to hum C, third space, treble clef; sustain it thus about two seconds, and then open the mouth in the shape of the vowel *aw* and sustain it as a very soft sound. This she did on every successive tone below, till, after a short time, she was able to carry this method of tone-production down to lower C. The exercise was gradually extended to the other long vowels. As soon as advisable, I introduced into this practice, beginning with middle C, a light swell, repeated several times in one breath, the vowel *ee* proving especially helpful; this was carried down to the lower tones as fast as she was capable of doing it without any break. Soft colorature exercises, partly for humming, partly with the above-mentioned vowels as very soft tones, were also used.

Finally, the following effective exercise for restoring the medium tones and blending them with the lower chest-tones was prescribed: Beginning on E♭, fourth space, treble clef, as the fifth of a major scale, I had her sing on the vowel *ee* slowly and distinctly, though softly, five tones down the scale to A♭, holding this last tone through the remainder of the breath. This exercise was repeated on the key next below in chromatic order, and so on as low as could be done without a break. Next, a repeated swell was executed every time on the lowest tone. Then a crescendo was practiced on the descending five tones and finished on the last; this also was transposed chromatically down as low as possible without breaking. Finally, a long swell was done on every lowest tone, as low down as possible without breaking into the ugly chest-tones. (See Example 25.)

Though the plan laid out for Mlle. Aimée was not yet finished in regard to the development of her medium range of tones (the re-

storing of her head-tones progressing very satisfactorily), her voice was by this time so far restored that she could again sing a lyric song with beautiful effect. For a dramatic song, the medium and head-tones were not yet strong enough. There is absolutely no doubt that her voice would have been completely restored, with better evenness and more mellowness than it ever possessed, had not her artistic career been suddenly cut short.

Just as she had finished one quarter of twenty lessons, in the summer of 1887, her mother died in Paris, making it necessary for her to cross the Atlantic. It may be mentioned that for some time Mlle. Aimée had suffered from a tumor. Dr. Henry Schweig, with thorough understanding of the nature of this trouble, had repeatedly told her never to submit to an operation, for it would be certain death; and, at her departure for Paris, he impressed this forcibly upon her. Yet, in spite of this warning, she was prevailed upon by a venturesome Paris surgeon to undergo an operation, which resulted in her death.

In describing Mlle. Aimée's interesting studies I have outlined a course that is of use in all similar cases. I shall now treat, in a general way, of the equalizing of the medium and the lower range of tones. I must direct the reader's attention to one thing, namely, that I do not refer to voices that are naturally even, for, as already remarked, such fortunate cases are very rare. When there is decided unevenness between these two registers, the teacher has to step in and endeavor to equalize them. This process must always be begun with the medium range of tones. The first step toward joining them evenly to the lower range is to extend the medium range lower. This should be observed with every female voice. Here we meet the almost universal prejudice that the cultivating of a female voice must be begun with the low tones, for the absurd reason that it is almost impossible to develop a strong medium range of tones in a female voice! If this ever so happens, why do not people see the cause of it? Because they begin to work at the wrong end! Even an original and progressive student like Julius Hey seems to hold the same opinion. At least he expresses himself in Part III. of his *Deutscher Gesangs-Unterricht* thus:

"Amongst female singers we seldom find one who wishes to begin work with one of the faint tones of the medium range, for she would experience great discomfort in battling with an impotent tone."

The consequence of this erroneous method of training a voice is that a female singer is thus compelled to practice first the lower, so-called chest-tones in order to lay a good foundation for subsequent work. But her medium tones cannot be developed in this way. I refer the reader to what I have already said about the dangerous and erroneous custom of considering the low tones, instead of the tones of the medium range, as the foundation of a female voice. (See Section 39.) If she does not begin the development of these medium tones, and keep on developing them throughout her whole career, they will never be strong and melodic.

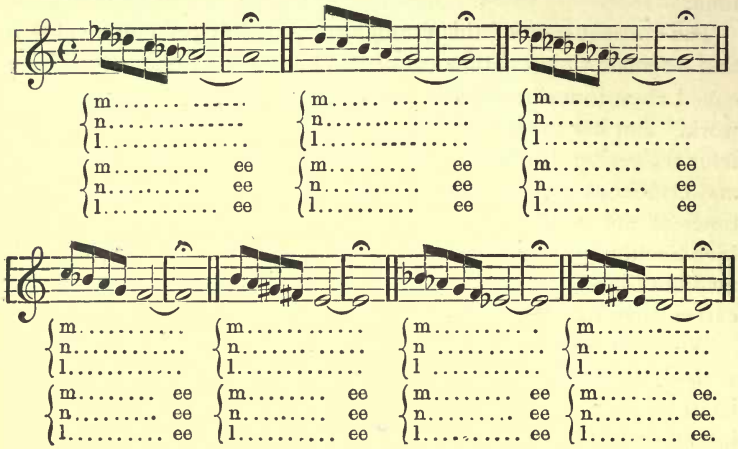
We have seen that sopranos, mezzo-sopranos and boy-trebles invariably sacrifice the medium range by developing a low, powerful chest-register. The few exceptions that may be found prove nothing against this statement. Still, I have never known that to develop the middle tones first was at the expense of the chest-tones. The question is: How far down, how many tones below middle G, second line, treble clef, should the medium range be extended? I refer to this G, because the modern Italian and French schools take this very note as the dividing line. I wish that every vocalist could be convinced of the absurdity and the danger of this break. I am referring to a twofold error, namely, (1) the introduction of the line of division in itself and for all female voices alike; and (2) the danger to all voices from forcing the chest-tones so high. It is impossible to state the exact tone to which the medium range of all female voices should reach. Each pupil presents a case peculiar to herself; therefore the question must be decided individually.

I give now the exercises that prove most useful in extending the medium register lower. It is important to practice them very softly. They should be done with either vocal or humming tone. If a break occur, then humming is the only remedy. With vocal tone I find the vowel *ee* the most practical in this range.

Sometimes it may not be necessary to hum the following exercise.

In such cases, it is begun with the vowel *ee*, continued to the lowest tone and sustained thereon.

Example 25.



After these exercises have been practiced as long and as low down as seems advisable, the next step is to make the tones that have been thus gained stronger. Nearly every female singer finds a tone in the neighborhood of middle F♯, F, E or E♭, which is rather weak if sung in the same manner as a tone belonging to the medium range is produced. The next lower one, if sung as a chest-tone, will, compared to the former, sound too strong. The singer should now try to blend these two into one; that is to say, she should endeavor to divide the muscle-action—use partly that of the medium and partly that of the chest-register. The former weak tone will thus become strong; the other, i. e., the next lower one, will become much more mellow than it was before. This method should be used on all tones until the transition from the lower medium to the upper chest-register has become perfectly even. In the tones nearest to the medium range the muscle-action peculiar to the medium range should predominate; in the tones nearest to the chest-register the muscle-action of the chest-range should predominate. The muscle-action peculiar to the two registers should be employed

in equal proportion in practicing the two tones lying midway between the two ranges.

The necessary power is gained by the so-called repeated swell-practice on the lowest note with the vowel *ee* of Example 25. Whenever the student feels that she is getting near the action of a chest-tone she should at once begin a diminuendo. Great perseverance and patience are needed, for, as a rule, many months will be required to establish a finished blending of a strong medium range with the chest-register.

Nothing has been said as to how low the chest-tones are to be practiced. As I have laid down the rule that under no circumstance is the voice to be forced, I can safely leave it to every person to decide this point for himself. The high soprano will do better, as a rule, without the so-called chest-tones; her lower tones should be mostly of a medium character. The high mezzo can go lower and mix a little more of the chest-register with her lowest tones. The low mezzo-soprano has, of course, lower and stronger chest-tones; the alto still lower.

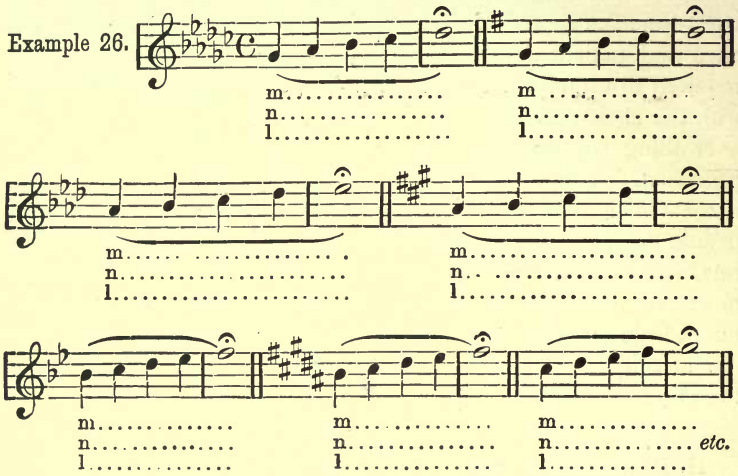
II. How to Equalize the Medium Range with the Head-Register.

I believe every experienced singing-teacher has had many instances where a female singer has weakened the first two or three tones of her head-range, especially the first one, by using the muscle-action of the medium register too high. The modern Italian and French schools have established here also a line of distinction on D or D♯, fourth line, treble clef. As the musical instruments are pitched very high in this country, the practice of carrying the medium voice to or above D, fourth line, treble clef, is very imprudent. It will often be found that this D, or D♭, should be sung as a head-tone. It is just as erroneous to establish a rule for designating where every person's medium range should stop and the head-tones begin, as it is to make a similar rule for the medium and lower ranges. But in trying to blend the upper two registers it is always safest to practice the head-tones softly lower down into the

range of the middle tones. This point can be determined only by examining each case individually.

The first practice for developing the head-tones consists in humming the following exercises very softly:

Example 26.

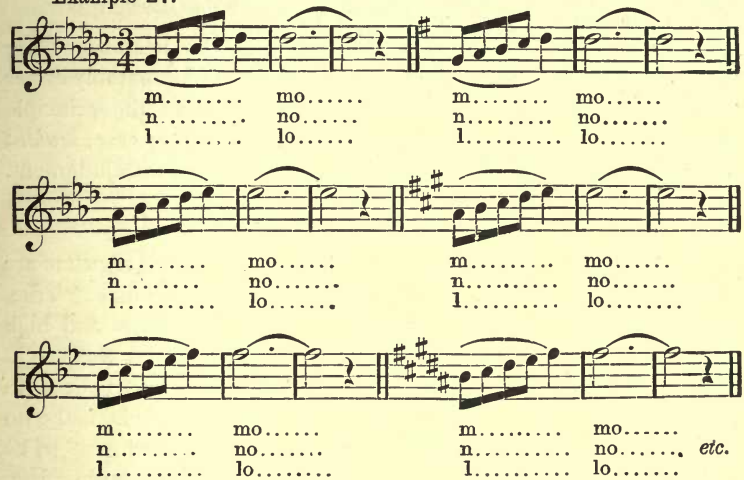


A very low voice may have to begin these exercises in a lower key; high voices can carry them several keys higher. The mature judgment of the teacher must decide this, and must also decide how long they ought to be continued before the pupil is allowed to enter upon the next exercise.

This practice is based upon the physiological fact that one of the characteristic features of head-tones is that the posterior nasal tube is their principal resonance-chamber. It is, therefore, a great help to hum not only on *m*, but also on the other two vocal consonants, *n* and *l*. This will lead the sound-waves directly into the posterior nasal tube, or, to use an ordinary expression, into the head. The tones of the first measure in Example 27 are hummed. On the first beat of the second measure sing the long vowel *ō*, exercising a strong muscle-pressure on *m*, *n* or *l* just before the vowel is sung. Hold the highest tone as long as the breath will permit.

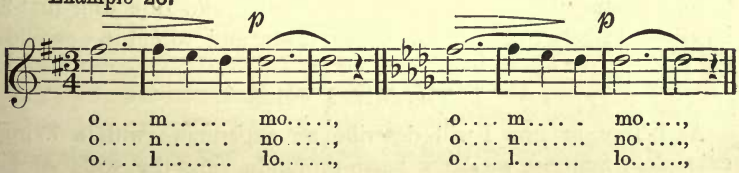
The last tone is sung either softly, loudly, or as a swell, according to the requirements of the pupil. The vowel *ō* is chosen because for its formation a configuration of the oral cavity most favorable for the production of head-tones is required. Sometimes *oo* or *aw* is more favorable. After all the head-tones are fully developed, these exercises should be practiced on all the vowels in connection with *m*, *n* and *l*.

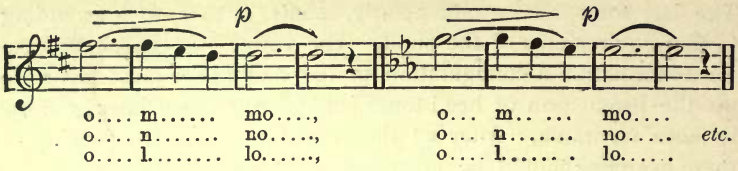
Example 27.



The third practice is recommended for high voices especially. Sing moderately loud one of the head-tones of which you are sure; then, humming softly on *m*, *n* and *l*, sing three notes down, and treat the third one just as the highest note is treated in the preceding exercise.

Example 28.





The dynamic conditions of this exercise depend upon individual requirements; and in regard to change of vowels, the advice given in the preceding exercise applies here also.

The blending of these two registers, after the head-tones are firmly established, is a very simple matter and is incomparably easier than the equalizing of the two lower ranges. Both the principle itself and the method are exactly the same in either case, *mutatis mutandis*. Examples 36, 37 and 38 may also be used with judgment.

§ 55. *The Registers of the Male Voice.*

The teacher's work with the male voice, as far as the registers are concerned, is very much easier than with the female voice. True, there is the same distinction between the lower, medium and high range of tones; still, only the latter, as a rule, occupies the teacher's special attention. Many teachers, who profess to believe in the principles of the modern Italian and French schools, make no distinction between the registers in the male voice, forcing it to be a chest-voice altogether, which is done by holding the larynx firm, or fixed at the lowest point in the throat. This condemnable and dangerous method of singing with a fixed larynx is exhaustively treated in Chapter XIII., Section 56.

The equalizing of the lower and medium range of the male voice is a very simple matter. Full directions are contained in Section 45, in the rules given for tone-production, especially the rule cautioning against the use of force on the larynx, and directing that it be allowed freely to rise in ascending tones and to fall in descending tones.

I. The Mixed Voice.

As before, so now I will describe an experiment with a living example. Suppose we let a basso-profundo sing the scale of G

major. We ask him to start on low G, first line, bass clef, and sing upward to D, a fifth above the octave. We expect him to obey the rules strictly; to take breath as described, to hold his throat relaxed, and to let his larynx be unrestrained in its gradual upward move. But we want him to use a wrong muscle-action for the last three highest tones, B, C and D. We ask him to sing them without any change in the position of the larynx or in any of the movable parts of the pharynx. Observe the effect. Everyone having a refined musical ear will at once notice that the three highest tones were not as full and round as the preceding ones; that C was poorer than B, and D worse than C, and was ushered in by a break. Had he sung the next higher tone, E, his tone would have gone to pieces.

What caused this trouble? The tones were not properly balanced; in other words, the medium range was not equalized with the high register, and the tones of the latter were not produced correctly. The proper way is called in the German school of voice-culture *das Decken der Töne*, "the covering of the tones." Others call it the "mixed voice." This latter term is frequently used in this country. Which of the two expressions is the better? The German term is rather obscure. How can one understand the meaning of "covering of the tones?" A more practical way is to call it singing with a closed throat. This is the term I use in teaching. But its exact meaning should be understood. Still, I favor the expression "mixed voice." The opinion prevails that in this process the tones are produced by mixing the muscle-action of the chest-voice with that of the falsetto. As physiological discussion is purposely avoided in this book, and as I have not yet found two specialists that agree in regard to the exact process of producing falsetto tones, I shall not weary the reader by presenting their conflicting views. However, from experience, and from the testimony of the best singers of all times, I can state that falsetto practice is the fundamental work for the developing of the high tones of all male voices and for equalizing them with the medium range.

Before entering into the details of this important practice I will explain how the term falsetto should be understood, thus preventing

any misunderstanding as to what I mean, no matter in how many different ways the term is used by others.

II. The Falsetto.

What is the falsetto? Some call the highest tones of the soprano, when sung softly, the falsetto. Others understand by it the softest tones of male and female singers throughout the whole compass. I am of opinion that the old Italian masters understood by the term falsetto the soft production of the highest tones of male voices with closed throat. I, therefore, accept this definition of the term; and when I use it I mean the soft, high tones of a male voice sung with closed throat.

III. The Male Alto.

This distasteful and shocking mode of tone-production does not find a place in my book because of any desire on my part to aid in its introduction into the United States. On the contrary, I wish to impress all my readers with a sense of its positive ugliness. I have not infrequently heard it called singing falsetto. I protest against this, for a male alto does not sing with a closed throat, but with an open throat; otherwise, he would not have sufficient power to be heard. Musical ears do not desire to hear him, anyhow. I think the assertion is warranted that they owe their existence to a necessity, not to a real musical want.

The male alto is distinctly an English institution. The boy-choir mania in England has been the occasion of creating this abuse of the human voice. Inasmuch as a choir must have alto singers, and inasmuch as ladies are, as a rule, excluded from chancel-choirs, and boy altos being very scarce, the male alto was the last resort. If I have been rightly informed (my informant was one of this unfortunate class himself), the male alto voice is made as follows: A choir-boy who feels that he is nearing mutation continues to sing during the whole time, keeping up especially those upper tones that a boy otherwise would lose by the growth of the larynx. Thus he is enabled to sing—if it can be called singing—a few tones higher than a tenor. This does not hinder complete mutation of the voice. A male alto has two voices: His real male voice and his alto voice.

The gentleman above referred to had a baritone voice beside his alto; but it was not sonorous.

IV. The Male Sopranos and Altos of the Old Italian School.

Some people think that the English male alto is identical with the male alto or male soprano of the old Italian school. This is not so. The male trebles of this latter school were probably the product of Greece, or some other Oriental country. It was undoubtedly observed at an early period, that eunuchs, as a rule, had very melodious voices, of remarkably large compass. It was probably well known in Italy two hundred years ago, perhaps longer, that a boy possessing a naturally good voice, if made a eunuch long before the mutation of voice, would gain a voice that in richness, endurance and compass would excel the best natural voices of both male and female singers.

When a boy who had been thus mutilated arrived at the age when, in a natural state, he would have entered puberty, this process could not take place thoroughly, on account of his mutilated condition. Consequently, the growth of his larynx and the real mutation of his voice were interfered with. While his chest became the full size of a man's, his larynx grew only a little larger than that of a woman. This abnormal development had, as a matter of course, a great influence upon his voice. If the boy was a treble, he lost very few, if any, of his head-tones; while, as the vocal ligaments increased in size, his head-tones became more voluminous and brilliant than those of a woman. His medium range had far greater depth and mellowness than had any female singer; and his lower tones improved proportionately in sonority and compass. If such a boy was an alto singer before mutation, he was an alto afterward; but the quality and compass of his voice shared in the same wonderful improvement as in the treble. Such a male alto had, indeed, a voice of incomparable beauty. Moreover, the voice derived advantage from the fact, just mentioned, that the male soprano or alto, as he grew up, developed a chest and lungs as large as those of a man, enabling him, of course, to inhale more air than a female singer could, and to use it less freely than the male singer could do.*

* Dr. Merkel's *Der Kehlkopf*, p. 11.

At the time when the first musical dramatic works, i. e., operas, were brought upon the stage, says Ambros, the male characters were naturally given to tenors and bassos, and the female characters to sopranos and altos. But the Romish church looked with ill favor upon the "degradation of women" on the stage, and used all her influence against it. During the first half of the last century, Pope Clement XII. formally forbade women to appear on the operatic stage, and, therefore, the singers *generis neutrius* had to replace the singers *generis feminini*. From that time, in Rome always, and at other places mostly, the operatic bulletins had to announce a Mr. Soprano and a Mr. Alto. This is a dark spot in the history of the old Italian school. How this most inhuman and criminal practice could be not only tolerated but even respected throughout Europe, is a great mystery. Happily it has been buried, and now even to mention it is improper.

Still the time is not so very remote when a traveler, walking through the streets of a city in Italy, was startled by a sign over a little shop: "*Qui si castra ad un prezzo ragionevole.*" I do not know when these inhuman butcher-shops were abolished. During my first visit to Italy, about forty years ago, I no longer saw any traces of them. Yet I distinctly remember having heard a few male sopranos and one male alto of this kind. No one who has not heard it, can form any idea of the beauty and voluptuous richness of such a voice. Others — those who have not heard — will read with astonishment the fact recorded by the most reliable historians that frequently in an Italian opera-house the audience would become perfectly frantic with enthusiasm, and cry out in a body after an aria by one of these singers: "*Benedetto il coltello!*"

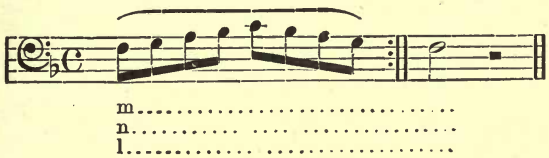
V. How to Develop the Mixed Voice and to Equalize it with the Medium Range.

I have already said that the mixed voice is developed from the falsetto. The first step, therefore, is the practice of the falsetto. Here I meet the difficulty that the writer on voice-culture so frequently encounters, namely, individual peculiarities. As a rule, soft humming exercises will lead the singer, in the simplest way, to a

practical knowledge of the falsetto. A class of singers frequently met with, from the high tenor down to the lowest bass, sing the transitional tones between the medium and high range in a most disagreeable, rough way,—a fault that is called in German *Gaumenton*. This is caused by holding the posterior part of the oral cavity in such a position that the air-column strikes the roof of the mouth just above the soft-palate. A characteristic feature of this faulty tone-production is that the singers addicted to it invariably shout at the top of their voices, and force the throat-muscles and cartilages in the most unnatural manner.

As a first humming practice I advise the following for a low voice, to be repeated as many times as possible in one breath:

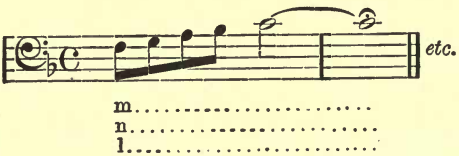
Example 29.



It may be begun in a lower or higher key if deemed advisable, and should be transposed in chromatic order to as many higher keys as can be reached without force.

The next exercise is also hummed very softly:

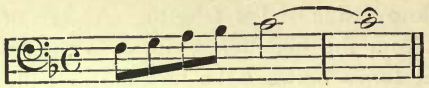
Example 30.



This, also, may be begun in a lower or higher key, and should be transposed to higher keys under the same conditions as the preceding exercise.

The third practice is upon the notes of the preceding example, differently treated. Sing the first measure very softly on the vowel *ee*, unless pecularities in the singer make *ō* or *oo* preferable. The highest note is hummed and a light crescendo executed on it. Take care that the larynx and tongue-bone muscles are not stiffened.

Example 31.

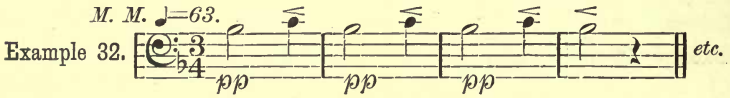


ee.....m.
ee.....n.
ee.....l.

This exercise also may be begun on a lower or higher key, and should be transposed to higher keys, with the foregoing restrictions.

The fourth practice is similar to the preceding one, and is subject to the same rules as regards the vowels and starting-note, and to the same restrictions in regard to transposition to higher keys. Upon every quarter-note make a light crescendo on the humming sub-vocal.

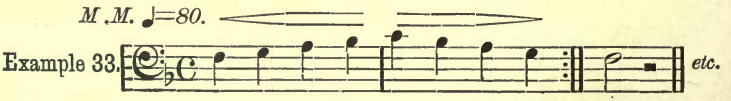
Example 32.



ee....m, ee.....n, ee.....l, m.

The fifth practice aims to equalize the medium and the high range. This should be done in a way similar to that already explained. The remarks following Example 23, in regard to the gradual changing from the muscle-action of the chest-tones to that of the medium range of a female voice, are applicable here also; only instead of "medium range" substitute "mixed voice." Do the exercise on the vowels *ee*, *ō* or *oo*. It may often be done with the three successively. The crescendo should be carefully executed. At first only a slight increase is advisable, so that on the highest tone *mf* is reached. For some persons the crescendo had better be omitted in the beginning. Use your judgment in regard to transpositions.

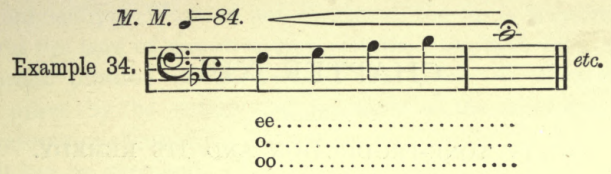
Example 33.



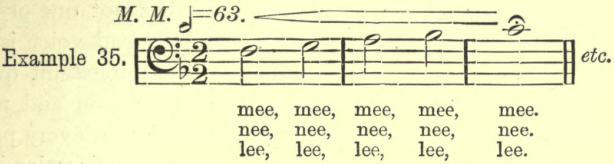
ee .....
o.....
oo.....

The sixth practice is subject to the same rules as the preceding one. After you can execute the crescendo easily and with perfect balance on every note, moderately loud (*mf*), then the swell may be

gradually increased to forte. This remark applies also to the preceding example.

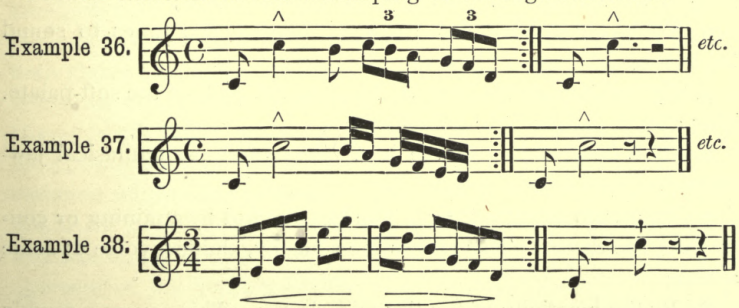


This last exercise may be varied as follows:



Every subvocal should be dwelt on a little and increased slightly, accompanied by hard pressure of the air-impeding muscle. The vowels may be varied to *ō* or *oo*, *ad libitum*. The same method must be used for all male voices, baritone and tenor as well as basso; but it should be adapted to the voice. How? This can be learned only by experience. All the exercises should be begun on a pitch to suit the voice.

Further exercises for the developing of the high tones are:



REMARK.—These exercises should be transposed to higher or lower keys according to the kind of voice, male or female, high or low, and repeated as many times as possible in one breath.

CHAPTER XIII.

FAULTY TONE-PRODUCTION AND ITS REMEDY.

A singing-teacher seldom gets a pupil that has not one or more bad habits in producing tone. Still, a naturally bad voice is very rare, and I am convinced that the cause of its unpleasant quality will be nearly always found in wrong muscular action and not in unfavorable structural conditions. I also believe that every person whose vocal organs are not malformed can improve his voice if the right method is intelligently and perseveringly used.

Faulty muscle-action may take place,—

1. At the larynx. This is called the fixed-larynx system; it causes hard and raspy tones;

2. By a general stiffening of the throat. This causes throaty sounds or, frequently, shrillness;

3. At the posterior part of the oral cavity, caused by the dropping of the soft-palate. This produces nasal tones;

4. By wrong action of the tongue, causing the tones to sound thick;

5. By contracting the muscles forming the arch of the soft-palate. This causes disagreeable palatal tones;

6. By a faulty action of the jaw. This produces unmusical jaw-tones;

7. By an unnatural raising of the larynx, and by straining or contracting the throat. This causes the squeaky, childish voice of some adults;

8. By the inactivity of the lips and cheeks. This causes a muddy tone quality; and, finally,

9. By the quivering of the flexible muscular membranes of the fauces and the uvula. This causes the disagreeable habit of tremolo.

§ 56. *The Fixed-Larynx System.*

This method of singing produces unpleasant, raspy tones, and is very unhealthy. We need not wonder at this, for it is entirely contrary to the laws of nature to sing with the voice-box firmly held in its lowest position in the throat. This system is all wrong, as I shall prove by the nature and functions of the windpipe, larynx and resonance-chambers. Nature has so constructed the windpipe that it can be stretched. There is no muscle at its lower end that can exercise any control over its mobility. The larynx forms the upper end of the windpipe. The shield-cartilage has, on each upper side toward the back, two horns that are connected with the tongue-bone by a membrane. The muscles that depress or elevate the tongue-bone are, for the most part, the agencies of the mobility of the larynx, and, in fact, of the whole windpipe. On account of this mobility "the larynx takes part not only in the important acts of deglutition," during which "it is brought forward and upward," but its mobility serves principally for tone-production. "During the act of phonation," says Dr. G. T. Witkowski,* "the larynx is raised during the emission of acute sounds and lowered for grave sounds." Dr. Lennox Browne adds in a foot-note to the above: "This elevating and lowering of the larynx influences the pitch of the emitted note by means of a corresponding shortening or lengthening of that portion of the vocal apparatus which lies above the voice-box, a corresponding contraction in the diameter of the canal, both above and below, assisting to the same result. By such a provision the vocal organ is not only one with reeds, having power of alteration of length and size, but with pipes, having a similar capability, both as regards conduction of the motor force, air, and in emission of the note pitched." For further information upon this important point, I refer the reader to Dr. Lennox Browne's useful and instructive book, "Medical Hints on the Production and Management of the Singing-Voice."

Emil Behnke describes a very interesting experiment, by which he tries to prove that the pitch of the tones produced by the vibrations of the vocal ligaments depends mainly on their tension.

* Witkowski's "Mechanism of Voice, Speech and Taste," translated by Dr. Lennox Browne.

This opinion I do not share; but as it is already refuted by the statement of Drs. Witkowski and Browne, just quoted, I shall not dwell upon it. The argument that Mr. Behnke uses, however, can be applied with better force in proof of the theory that alteration of pitch depends upon the mobility of the larynx, together, of course, with the tension of the vocal ligaments.

"Let the reader do as follows: (1) Place the finger on the shield-cartilage (the protruding part of the so-called Adam's-apple) and press it vigorously backward. (2) Sing *loudly* any *high* tone that is well within your compass. Hold this tone steadily and *be quite sure you do not alter its pitch.* (3) Now suddenly remove your finger, continuing to sing as before. What is the result? Your tone is raised by a second, or third, or even more, according to the amount of pressure you exercised on the shield. How did this result come about? By pressing the shield backward you elongated the ring-shield muscles, thereby counteracting their stretching influence, and at the same time slackening the vocal ligaments. The tone you sang while doing this was, we will say, C^1. By releasing the shield you enabled the ring-shield muscles to contract again, thereby putting the vocal ligaments on the stretch as they were at first. That changed your C^1 to D^1 or E^1, or higher still. Have I proved my assertion?" *

Most decidedly, as far as the alteration of pitch depends upon the tension of the vocal ligaments. But this experiment proves more. We must notice the fact that as soon as in No. 3 the finger is removed suddenly from the shield-cartilage, not only the tone is raised, but the larynx jumps up also. But if the above experiment is made on a low tone, the voice-box will be found to remain in its position after the finger is removed, and the pitch of the tone has not been altered. This proves conclusively that the larynx — if permitted to follow its own automatic actions — will rise with the ascending and sink with the descending scale. It is needless to remonstrate that if it were a natural law for the larynx to rise or fall according to the high or low pitch it would be impossible to sing with it settled firmly as a rock at its lowest point

*Behnke's "Mechanism of the Human Voice."

in the throat. If nature had constructed the vocal machine in the simple and stable manner of a musical instrument, it would be, of course, comparatively easy to determine and regulate the use of all its parts. But nature has exhausted her ingenuity in the formation of the vocal organs, in order to give a singer inexhaustible means for his dramatic talent and skill. Just this wonderful versatility of the vocal apparatus makes its study so difficult, and, in consequence, so much misunderstanding and abuse are possible and of frequent occurrence. Mr. Behnke agrees with the best authorities that when singing — in chest-voice or falsetto — the voice-box rises gradually with each higher tone. A teacher who insists upon his pupils keeping their voice-boxes perfectly still commits a serious mistake, because it is always injurious to do violence to nature. It is one thing to keep the voice-box steady, thereby facilitating the working of some of those muscles which act immediately upon the vocal ligaments; it is quite another thing to attempt to prevent movements which have to serve a great purpose. I have had opportunity of examining many tenors and bassos who have been trained by teachers who forced them to keep the larynx in a firm and closely-confined position. Without exception, their tones sounded unmusical, dry and harsh, lacking all sympathy, no matter how good their natural voices might be.

Why is it that no teacher of elocution has ever been known to force his pupils to such unhealthy and unnatural voice-practice? Why do all elocutionists practice the correct theory, i. e., the higher the pitch, the higher the larynx rises; the lower the pitch, the deeper the larynx sinks? They follow the dictates of nature as illustrated by the very spirit of the language they speak. We learn from Prof. Tyndall's "Lectures on Sound," that all the vowel-sounds correspond to a certain pitch (as he proves by tuning-forks) according to the large or small space or shape of the resounding-cavity, which in the pharynx depends mainly upon the mobility of the voice-box. In *oo* it stands lowest; in *ō* about the same; in *aa* higher; in *â* it rises more; and in *ee* it reaches the highest point. Helmholtz* finds the actual difference of pitch between the reso-

* "The Sensations of Tone."

nance of *ō* and *aa* to be one octave; *â* is one octave above *aa*; while *ee* is so high that none of his tuning-forks could reach it.

The fixed-larynx system must be condemned for another reason, namely, because it prevents the singer from correctly shading his tones in sympathy with the sentiments to be expressed. The spirit of a language has, for the most part, given the bright vowels to words expressive of joy and gladness, and the dark ones for the feeling of sorrow and such passions as form the dark shades of the human heart. If the singer wishes to give the right dramatic expression, he will have to study and practice all the movements of the larynx. In the bright and gleeful outbursts of joy the larynx must rise; in the melancholy wail it will sink to its lowest position. According to the modifications of these two contrasts of passions, the singer must treat the resounding-cavities as the painter's hand dips the brush into the different colors to give the imprints of the imagination of a genius in painting feelings and passions. In comparison to such an artist what a lifeless, what a wooden frame is the singer with the fixed larynx! There is only one shade possible in his voice. He is like the little boyish dabbler in colors, who uses black or dark gray for all his attempts in painting. For high or low, joyful or sad, quiet or excited situations he drawls out the same monotonous tone. The sarcastic doctor of divinity in Prussia, who defined music as a well-regulated and systematic noise, might have received his impressions from such singers!

A certain singing-teacher "from the principal Italian opera houses" justifies his fixed-larynx system, affirming "that like musical instruments the voice is capable of only one timbre." There is not an atom of truth in this assertion. I object to the establishing of the laws and essential conditions of the vocal organs by the rules that govern the manufacturing or the playing of musical instruments. Still, by way of a comparison, even a musical instrument in the hands of an artist shows that it is capable of a wonderful variation of timbre. If this were not so, how could Rubinstein on his piano, Wilhelmj on his violin, Fischer on his violoncello, and many others on various wind-instruments, make them speak so expressively in the tone of the feelings and passions that fill the human breast?

With so much more emphasis must I protest against degrading the voice to a monotonous drawling machine like a bagpipe. Incomparably better than any musical instrument, in fact, with the greatest truth and naturalness, can the human voice express all human feelings and passions, because its resounding-cavities are like a kaleidoscope, capable of an infinite versatility. Only a talented artist, and he only after years of close application and study, can reach perfection in this. But a fixed larynx can never achieve such artistic success; just as little as a kaleidoscope can vary its picture without mobility.

To repeat: Singing with a fixed larynx is unnatural tone-production; and, besides its injurious effects upon the physical condition of the vocal organs, it produces a dry, rasping sound and makes truly artistic singing impossible. But when we consider that this faulty system goes still further and carries its open chest-tone with main force up to the highest possible pitch of the singer's compass, then we must call it absolutely murderous and criminal, considering the damage it inflicts upon voice and health. This is strong language; still it is true.

Look at this man of 18 or 20, sound and healthy, with a promising tenor voice. He has begun vocal instruction and is practicing his lesson. There he stands on his tiptoes, or rather hangs on them upward in an oblique position, his equilibrium kept by the stretch of imagination and a strong will, his shoulders erect, his head stretched backward, nose and chin pointing to the sky. Now he jumps, and out comes a yell, high enough to make the poor fellow dizzy, propelled with an effort, as if he were practicing throwing bomb-shells into the moon, his mouth serving for the opening of the mortar. It was a terrible yell. Still, an uncultivated ear would be filled with wonderment at such a big tone. After another year we meet him again. In the meantime he has become thinner and paler. We find him at a similar performance. His efforts have become stronger, his heels, shoulders, head and chin are loftier than before, he jumps a foot higher than a year ago. What an immense yell must necessarily follow! No! It was a breakdown. He tries again and again. The same failure each time. On a lower tone,

finally, he succeeds, but the tone is not strong, it is hard and squeaky. After another year we find him again—broken in health, voice and spirit, completely discouraged, after having spent a fortune for lessons and doctors' bills. I can cite strong authorities against the fixed-larynx system. Tosi, in his celebrated book, of which I have spoken, says: "Some teachers have so little experience that they force a pupil" [Tosi speaks here of male voices] "to sing long and high sustained tones with open chest-voice. In consequence, their throat becomes from day to day more inflamed, and if the pupil does not lose health and voice altogether, he will surely lose his higher tones." Tosi wrote these lines more than 200 years ago. With greater force they fit our own times. Dr. Charles Burney's and A. W. Ambros's historical works are full of complaints about the unartistic yelling of the French school of singing, which proves especially pernicious to tenor voices in the high range. In this regard, the most guilty man is undoubtedly Gilbert Duprez, born in Paris, in 1806.

Possessing himself a phenomenal voice, only extraordinarily robust and powerful voices could stand "the extreme strain put upon them by his vocal school—weaker ones lose life and voice by it." These are weighty words, accredited to no less an authority than Hermann Mendel.

As this country, and especially the city of New York, has a number of the cruel representatives of this voice-ruining school, I must add the lengthy evidence given by Castelli as cited in Emil Behnke's "Mechanism of the Voice:" "In the field of singing a new man arose, who, in spite of great personal attributes, worked destructively for the future, and whose influence upon the later manner of singing is seldom truly recognized. I mean the singer Duprez. Hissed off at first in Paris, he went to Italy, where he stayed several years, and then returned to the French capital. When he came to use his magnificent vocal resources, as he did in the fourth act of 'Tell,' where he brought out the high C in the chest-voice with all the might of his colossal organ, it was all over with the fame of his predecessors. Nourrit, till then the favorite of the Parisians, a distinguished tenor singer, recognized the rival's power. His day

was over, and, in despair over his lost and irrecoverable glory, he flung himself from an upper window upon the pavement, and so made an end of his life. Duprez may justly be considered one of the greatest dramatic singers of our time, and the main features of his method soon spread themselves over all Europe. After hearing of Duprez, and how the chest-register could be cultivated even into the highest regions of the voice, the public were no longer contented with the use of the falsetto of the old Italian school. Soon it became impossible to be engaged as a 'heroic tenor,' without, at least, possessing high B♭ in the chest-tone. The singers found it a more thankful task to humor the taste of the public than to pay extra regard to the intentions of the composer; for often Meyerbeer himself indicates, by a *pp*, his design that the falsetto and not the chest-tone should be employed. That every tenor singer, whether such high pressure suited his natural compass or not, strove to screw his voice up and 'make effect,' was very natural, for art goes after bread, and a high C with the chest-voice often realizes an income of thousands to its fortunate possessor. Roger has made a laudable exception; his beautiful use of the falsetto certainly produces a more agreeable effect than the forced chest-tones so unnatural to the organ of many a singer. How widespread is this mistaken notion that the use of the falsetto is entirely contrary to art, we hear frequently enough in the expressions of individuals when some unlucky tenor happens to get caught on one of these labored falsetto tones. Thus the school founded by Duprez, important in itself, has called into life a manner of singing, the ruinous consequences of which we can see daily."

How can this Bad Habit be Remedied?

The remedy has already been described. My method of tone-production is founded upon the fundamental principle that all force shall be exercised by the breathing-muscles, and that no direct force whatever shall be exerted in the throat. It would be useless to add a word further than to say that in a habitual case of fixed-larynx system it may be necessary to do for a time humming exercises only, and to follow treatment similar to what I employed in Mlle. Aimée's

case (see Section 54, I.), the exercises, of course, to be adapted to each voice.

As the entire fixed-larynx system is based upon a rejection of vocal registers, endeavoring to do away with them by means directly opposed to what I have laid down in Chapter XII., I refer to this chapter again, every line of which is in refutation of this pernicious habit, and intended to point out a remedy.

§ 57. *General Stiffening of the Throat whereby Throatiness or Shrillness is Caused.*

This section can be very brief for three reasons: First, pupils present such a variety of symptoms that it is almost impossible to settle upon the average appearance of this trouble; secondly, it is a hopeless undertaking to decide which part of the throat by stiffening causes the voice to sound throaty and which to become shrill. All the parts of the throat belong to one organism, and the action as well as the cramping of one part affects, more or less, the other parts. Thirdly, the remedy for all these troubles is the same, and is the one prescribed in the previous section.

I cannot dismiss this subject without calling the student's attention to the danger of cramping the throat. No matter what part is stiffened, whether the tongue-bone muscles, the larynx, or the cartilages, cords and muscles on the sides of the throat, it will cause the tension-muscles and the vocal ligaments to be severely strained, which will surely injure the throat and voice.

§ 58. *Nasal Tones.*

It is commonly understood that a nasal tone is caused either by letting too much or too little air through the nose. This theory is entirely false. It may seem presumptuous for me to say this when the whole fraternity of physiologists, physicians and singing-teachers have maintained it so long. I have demonstrated to many professional gentlemen that it is possible to sing a perfectly clear tone with both nostrils tightly closed. On one occasion I did this behind a screen, in the presence of witnesses, with a party of listeners on the other side. I sang a number of tones in regular succession, with the

nose closed by the fingers, and afterward with the fingers removed. The tones were, in both instances, acknowledged to be perfectly clear, and not the slightest nasal quality could be detected. Any singer who is free from the habit of nasal singing can make the same experiment.

This fallacy may have originated from the fact that when a person has a bad cold in the head he, as a rule, talks quite nasal. This is caused by a swelling of the mucous membrane of the posterior nasal tube, or by layers of mucus that have been secreted there. Often it is caused simply by imagination. Tell anybody to close the nose with the fingers and vocalize, and you may be sure he will sing nasal. This, however, is only because he thinks he must sing nasal. Let him determine to sing clear and he will do it. I have never known it to fail except with the singer that sings habitually nasal.

The mistake has been made, I think, in not distinguishing sufficiently between the resonance-chamber of the posterior nasal tube and that of the nostrils. Every tone sends part of its sound-waves into the posterior nasal tube; the lower tones only a small part, but the higher the tone, the more important becomes this tube as a resonance-chamber. *But these sound-waves have to return and pass out through the mouth.* As soon as the sound-wave goes through the bridge of the nose into the nostrils you will hear a nasal quality, which varies in intensity according to the size and intensity of the sound-wave. A nasal tone is produced as soon as a part of the air goes into the nostrils. If no air enters the nostrils, no nasal tone can be produced.

Can a person speak clearly or sing words without a nasal twang if the nostrils are obstructed? Yes, in both cases, except in singing or speaking the subvocals *m* and *n*. The letter *l* can be pronounced clearly even if the nostrils are closed. Of *b*, *d* and *g*, only *d* will show an increased nasality. All the other speech-elements can be given as well with the nostrils closed as with them open.

How can the Nasal Habit be Cured?

In all cases of faulty tone-production too much stress cannot be laid on the assistance afforded by a correct, musical ear. I have

noticed that many students have great difficulty in perceiving with their ears when they were singing nasal. When I sang a clear tone and then imitated their nasal twang, they at once heard the difference; but in their own voices they were hardly aware of it. Any pupil can readily learn to distinguish all other bad tones; the trouble seems to be to teach the ear to know when the singer is singing nasal. This is the first step toward a cure. A teacher will find his patience severely tried in this respect, but he must persevere.

The vocal profession is, probably, more helpless in removing nasal tones than in correcting any other fault. The faulty muscle-action consists in dropping the soft-palate and uvula. The pupil should be given exercises to enable him to raise them.

In "Voice, Song and Speech" are three exercises that may assist the student. I prefer Miksch's exercise somewhat modified; it is similar to the exercises just referred to. Stand before a mirror, open the mouth wide, and with a tongue-depresser (one can be improvised with the handle of a spoon) press the tongue down as far back as possible without gagging, and slowly take a full breath through the nostrils. After considerable breath has been taken through the nostrils, finish the inspiration forcibly through the mouth, and then exhale. Do this several times in succession. The thought and will-power must be directed toward the uvula and soft-palate in order to strengthen them that they may lift themselves up and back against the entrance of the posterior nasal tube.

Another practice is vocalizing with the nostrils held closed. Besides this, I recommend the exercises given for the so-called fur-lined *l* (Section 80, Example 1). I have often used them with success in overcoming the nasal habit. The attention must be fixed, however, upon the direct throw of the air and upon the opening of the air-passage from the trachea into the mouth.

While these exercises are of more or less value, the best practice for the removing of nasal tones is the faithful application of the Breathing-Gymnastics, especially those of the Second Series. A pupil who has gained such control of the breath that he uses no more than is needed for voice-production, and knows how to throw the sound forward through the mouth independent of any direct

force with the throat-muscles, will seldom, if ever, produce nasal tones.

When other means fail or succeed only partially in correcting this habit, imitation of a pure tone is frequently helpful. Very soft vocalizing with the mouth in a smiling position is often of assistance, as is also very soft humming.

§ 59. *Bad Tone-Qualities Caused by the Tongue.*

The tongue is apparently a very flexible member, which accounts for the many difficulties that it causes. It has already been said that the tongue, when untrained, will often move to a point opposite to the one intended. This explains why so many singers curl the point of the tongue upward and hold it so while singing, when, on the contrary, it should never be above the lower front teeth on any vowel-sound. Others, again, stiffen and cramp the tongue back against the fauces and uvula.

The tongue must be put into many different positions in order to shape the resonance-cavity to the vowel-sounds. But in articulation the tongue has to execute a still greater variety of movements. The natural clumsiness of the tongue and its manifold duties, make a faithful practice of the tongue-exercises indispensable. Before beginning them the student's attention is called to the following rules:

1. Always practice before a looking-glass.
2. Be sure that you do not stiffen the lower jaw, nor protrude it.
3. Hold that part of the throat just above the larynx perfectly relaxed; in other words, do not stiffen the muscles of the tongue-bone.
4. Do not allow the lips, or the cheek-muscles, or the lower jaw to participate in any of the movements of the tongue, but keep them quiet and relaxed.

Exercise I.

Movements of the Tongue from One Side of the Mouth to the Other.

(*a*) Open the mouth wide; put the tip of the tongue at a comfortable point on the left side of the lower molars, and move it with a quick, elastic, spring-like action to the same point on the right side. Practice for a few minutes, trying to do it faster.

(*b*) Open the mouth wide; put the tip of the tongue at a comfortable point on the left side of the upper molars, and practice the same movements to the right and left as in the preceding exercise.

Exercise II.

Semi-Circular and Circular Movements.

(*a*) Open the mouth wide and put the tip of the tongue at the third lower molar on the left side; then describe a semi-circle downward very slowly, only lightly touching the bottom of the mouth, to the third molar on the right side and back again to the left in the same way. Repeat several times.

(*b*) Make a similar movement from the third upper molar on the left, over the roof of the mouth, to the right side and back again. Repeat several times.

(*c*) Put the tip of the tongue at the third upper molar on the left side, and from there make a complete circle slowly over both lines of *a* and *b* several times in succession, barely touching the surrounding flesh.

(*d*) Describe this same circle from right to left.

Exercise III.

Turn up the tip of the tongue and press it against the roof of the mouth just above the hard-gums; with a contracted, spring-like action let it suddenly bound against the corresponding point below the hard lower gums, similarly to the action of the syllable *laa* without sounding or even whispering it. Do this several times.

Exercise IV.

Direct the tongue-tip to touch various parts of the mouth, and see that the orders are carried out promptly and correctly.

Remark.—I never advise a pupil to exercise the tongue by pushing it out as far as possible, first, because I fear it may harm the membrane by means of which the horns of the larynx are fastened to the tongue-bone; secondly, because I see no reason for it, as the tongue has no function to perform which requires such a movement; and, finally, because it is an exercise that looks horrible and vulgar.

§ 60. *How Disagreeable Palatal Tones are Produced.* (*Gaumentöne.*)

Vocal and physiological scientists are very vague in regard to this kind of bad tone-quality. Among German specialists there seems to be no distinction made between *Gaumentöne* and *Kehltöne.* Literally translated, the first means palate-tones, the second, guttural or throaty sounds. The word *Gaumen* means palate and *Kehle* throat. Wrong muscle-action at either place can be easily distinguished, as well as the difference of the sensations to the ear. True, these two muscle-actions are frequently combined; yet there are enough pupils that have but the one habit to enable a close observer to note the difference between palatal and guttural sounds.

The pupil's attention has already been drawn to this habit, when it is found at the transition line between the medium and the high range in male voices, and the remedy pointed out (see Section 55, Example 29). Female singers often use this faulty action in their highest range. In the medium or lower range it is seldom found. The contraction of the palatal arch together with the high position of the back part of the tongue, which is always found with this kind of tone-production, diverts the sounding air from its straight course and impels it against the roof of the mouth near the soft-palate, instead of being thrown out in a direct course through the opening of the mouth in front without any hindrance.

It is much easier to show a pupil how to learn a certain muscle-action than to explain how not to do the wrong one. Contracting the palatal muscles is a needless strain, and the only remedy is simply not to contract the muscles; it is just the reverse of the habit described in Section 58, in treating of the nasal tones by dropping the soft-palate.

The first step toward a cure is sustained humming tones in the range where this faulty action is used. The next exercise is the one to be described in the following section, namely, to hum for a couple of seconds each of the tones affected by this muscle-action; then to open the mouth and sing them, using the most favorable vowel-sound, without increasing the volume. This will break the habit of contracting the palatal muscles. Next, practice repeated swell-tones

with only a slight increase at first, increasing the volume in proportion to the control gained over the habit.

§ 61. *Jaw-Tones.*

There are four ways in which a tone can be affected by the jaw: First, by stiffening the jaw; secondly, by holding the lower teeth too near the upper ones; thirdly, by moving the lower jaw too far forward; fourthly, by forcing the fleshy part under the chin down and cramping it.

1. Stiffening of the jaw is remedied by humming exercises. Sustained humming tones seem to attack the very root of the evil. Colorature exercises hummed are the next step. The final exercise is the following: Sustain a tone in the medium range for a couple of seconds as a humming tone; then all at once, without stopping the tone, open the mouth wide in the position of the vowel *aa*, but do not increase the sound. Hold the jaw perfectly relaxed. It has the same effect as singing very softly the syllable *maa*. Afterward, on the same pitch, hum *n* and again drop the jaw gently and sing very softly the syllable *naa*; do the same on *l*. Practice this exercise on several higher and lower tones of the medium range, changing the vowels at each tone. By degrees, add a repeated swell; but the instant you find the slightest stiffening of the jaw, begin the diminuendo. Finally, practice this exercise as a long swell; but be sure not to begin the crescendo during the humming, and as soon as any stiffening is felt, diminish the tone. If the jaw is stiffened when singing in the lower or upper range, then practice these exercises in that range where the stiffening occurs.

2. If the lower jaw is not dropped sufficiently, there is not enough space in the resonance-cavity of the mouth, and the tone will sound muffled. This is particularly the case with the vowels *aa* and *aw*. If, at the same time, the jaw is stiffened, the tone-quality will be worse yet. The famous singing-teacher, J. A. Miksch, used to put a small bit of wood between the upper and lower front teeth, thus forcing the pupil to keep his mouth open. I either cut a match the length of the middle joint of the little finger, or else use a piece of whalebone, with a notch cut in each end to fit the teeth.

This simple contrivance is also useful to the tongue. Pupils who find it difficult to hold the tongue near the edge of the front teeth in the *aa*-sound, can hold the tip against the lower end of the chip, which is easier felt, and thus accustom the tongue to stay there in a far shorter time than by pressing it against the lower front teeth.

3. The habit of keeping the lower jaw too far forward causes an exceedingly unpleasant quality of tone. This may be cured by the exercises advised in Nos. 1 and 2. If these should not have the desired effect, then I modify the method that my father used in his singing-classes to correct this habit, which was: When a pupil sang with the lower jaw protruded he had him stand against the wall, and held the big end of his violin against the chin. In that position a sustained tone was sung. The jaw can be held in place by pressing a finger against the chin; then take a full breath, hold it a little while, and sing a sustained tone. After a couple of seconds, release the finger and do not put it back unless the jaw moves forward again. Repeated exercises of this kind will break the habit.

4. Finally, the habit of depressing and cramping the fleshy part under the chin is cured in exactly the same way as the fault described in No. 1.

Besides these exercises I use two others for getting the jaw flexible; but I cannot describe them on paper plainly enough to be sure of being understood.

§ 62. *How a Squeaky, Childish Voice in Adults is Cured.*

Cases of this kind are very rare. But it is not for this reason that the defect deserves only passing notice. The reader knows sufficiently well by this time that I have based my method of tone-production on the all-important principle that whatever strain is used must be exerted by the breathing-apparatus, and outside of the automatic influence which these muscles exercise over the larynx, etc.; the throat must be kept perfectly flexible. An adult with a child's voice should confine himself to the Breathing-Exercises — especially those of the Second Series — for a longer time than the ordinary student. Humming exercises, particularly in the lower

range of tones, should also be practiced for a long time. All singing-exercises should be done very softly. Articulation-practice should be done, for a while, in a whisper, with the larynx in its lowest position. When voice is at last used, it is important to sing softly. In all practice, great care should be taken to keep the throat relaxed, and to use for the humming and soft singing the muscle-action of Breathing-Gymnastic IX., and for the articulation-exercises the diaphragmatic push. This will establish, by degrees, the natural chest-voice. After this is settled the case can be treated like any other.

§ 63. *How a Muddy Tone-Quality is Removed.*

Probably none of the movable parts of the mouth can be so little influenced by exercises as the lips and cheeks. But inactivity or any other defect in their action will cause the tones to have an unpleasant, muddy quality. The easiest way to keep the upper lip and the cheeks away from the teeth is by vocalizing on *aa*, *â* and *ee* in a decidedly smiling position. The raising of the upper lip should be practiced until perfect control is acquired, not only because it is necessary in vocalization, but because it is very essential in the practice of the consonants. Care should be taken not to let the muscles on the sides at the opening of the nostrils act in raising the lip, for this causes nasal tones.

§ 64. *The Tremolo or Tremulando.*

Here we have to deal with a fault that is sometimes a virtue. But as this book does not treat of dramatic expression, I will only say that frequently the air is expelled forcibly in order to picture with the voice a violent outburst of passion and emotion. A light tremolo will produce a good effect to give expression to a feeling of fear, anxiety or anguish. Outside of such cases the tremolo must never be used in singing. Who has not heard singers that always sing with an affected tremor in their voices? This is often done to hide a worn-out voice, but more often because they are under a foolish delusion that this tremolo is very expressive and dramatic. With the exception of the execrable habit of a continuous portamento, I

know of no style of singing so unnatural as a perpetual tremulando.

This habitual tremolo, however, is not always the result of affectation or mistaken ideas of expression. It is often caused by a chronic weakness of the throat-nerves, superinduced either by general nervous debility or, more often, by overstraining the throat and injudicious training. The former case must be referred to a physician; the latter will only be remedied by faithful study and practice of breathing-gymnastics and of the laws of tone-production as explained in the foregoing chapters.

CHAPTER XIV.

PRACTICE OF PHONETICS AND OF ELEMENTARY ARTICULATION-EXERCISES.

In the beginning of Chapter XI. I spoke of the necessity of a singer thoroughly studying the English language, and therefore do not need to repeat what was there said. I will here discuss three objections that are raised to articulation-exercises.

The first objection is that the consonants have not sufficient carrying-power to be heard in a large hall; therefore it is useless to practice them. The second objection is that "if song was originally intended for the expressing of one's own emotions, and not for the communicating of ideas to other persons, what need is there of attempting to develop the articulatory element at the expense of melody? Does not consonantal excellence mean impeded vocalization?"* The third objection is that people do not care to understand the words as long as a singer produces beautiful tones and excels in dramatic expression and action.

§ 65. *The Objections to the Practice of Articulation-Exercises.*

I. Have the Consonants Sufficient Carrying-Power?

In my opinion only lazy singers consider consonants useless. They wish to find an excuse for their slovenly pronunciation, and make the false assertion that consonants have no carrying-power, no matter how distinctly one pronounces them; that they cannot travel with the voice, and, consequently, cannot be heard anyway. I agree that, in a general way, the consonants cannot reach as far as the vowel-sounds. Helmholtz says: "Of the human voice the consonants are lost first at a distance. It is very interesting to listen from a high mountain to the voices speaking down in the valley.

* *Werner's Voice Magazine*, Vol. X., No. 9, p. 147.

Words can no longer be distinguished with the exception, perhaps, of those composed of *m* or *n* with simple vowels, as *mamma, no.* Still it is easy to distinguish the vowels of almost every word that is spoken."

Oscar Wolf* experimented on a perfectly quiet night during a walk under trees, with the following result: Of the vowel-sounds *ah* was heard 360, *ō* 350, *i* 340, *â* 330, *ee* 300, *oi* 290, *ou* 285, *u* (*oo*) 280 steps. Of the consonants *h* was heard 12 steps, *b* 18, *r* 41, *k* and *t* 63, *f* 76, *s* 175, *sh* 200, *m* and *n* with the vowel *aa* 180 steps. These experiments are not strong enough in favor of the consonants. In the first place, Helmholtz refers to great distances that could not possibly come under a singer's consideration; besides, it was in the open air and, in the second experiment, the conditions were not favorable for Wolf, as the trees with their branches and leaves broke the sound and hindered especially the traveling-power of the consonants. Moreover, Wolf has evidently experimented with consonants separated from vowel-sounds and vocality, with the exception of *m* and *n*, which could not be made audible across a table without a tonic. If these experiments were made in a large hall, and more thoroughly, I am sure the results would show that in every hall in which a voice could be heard to advantage in all parts, every consonant could be understood, no matter how far distant the hearer might be from the singer, if only he would pronounce them distinctly and correctly.

II. Does not Consonantal Excellence mean Impeded Vocalization?

This objection is based upon an entirely wrong supposition, namely, that a poem that is suitable to be set to music is nothing else but the communicating of ideas to another person. Music is the expression of emotions, the language of feeling. A poem that is simply didactic, that expresses nothing but abstract ideas, cannot be expressed by means of music. If an attempt is made to do so the result will be a farce. In so far as an idea, a sublime thought, creates feeling in the human breast it can be treated as a musi-

* *Sprache und Ohr*, Braunschweig, 1874.

cal subject. Yet I must acknowledge that musical forms, though very expressive, are not sufficiently distinct to convey their meaning beyond the possibility of a doubt. For instance, a musical subject may appear very expressive of sorrow, but it will not create in us deep sympathy, for the reason that we do not know what kind of sorrow the music expresses. Language alone can explain this. Therefore an understanding of the words is helpful to a melody.

To define song as merely the expression of emotions is a great mistake. This is the definition of music in general, as rendered by instruments. A song is music, to be sure, but it is a great deal more than this. Song is the product of two great arts—music and poetry. Each is an essential element of song. The articulatory elements of a poem must be practiced diligently, for if this essential part of singing be neglected, if the singer pronounce his consonants wrongly and clumsily, then they are surely a hindrance to the melody. If, however, he treats them, as he should do, artistically, then they will be interpreters of the feelings ingrained in the melody, and they will give vigor and life to the tones. This cannot be done without hard work. The voice is helped by the consonants. Every singer who makes their study and practice one of his daily tasks will find that the voice shows a new impetus in its developing directly this practice is added to vocalization. Consonantal excellence means, therefore, vocal elegance.

To the third objection I say that it is a misstatement · for

III. The Public Demands of a Singer the Distinct Pronunciation of Words.

The generally advanced state of musical culture absolutely requires a distinct enunciation of words. On this subject Gustav Engel* says:

"It is true that distinct enunciation was often neglected when so-called technique and skill to execute difficult tone-passages in rapid time were considered the most important part of the art of singing. The larynx was isolated as much as possible from its relation to the organs of articulation, and treated only as a musical instrument.

* *Die Consonanten der deutschen Sprache*, Berlin, 1874.

The most natural thing, however, in cultivating the voice, is to preserve that peculiarity by which it is distinguished from all musical instruments — its connection with language. Nowadays we demand much from musical lyric and from the poems that form its foundation, and tolerate no opera without a good dramatic plot. In the same proportion we require from a singer his whole attention to the joining of word and tone. In our days a singer can please even if he does not possess a large voice. But he cannot sing satisfactorily the simplest song without an artistic treatment of the language."

This artistic treatment of consonants, so positively demanded by the public to-day, depends solely upon the faithful practice of those muscles that are necessary for the management of consonants. To improve the exactness and flexibility of the muscle-movements for the interception of the air, together with sufficient degree of vibration of the vocal bands, should be the aim in practicing the consonants. The tongue is a very important agent in this, and upon the accuracy of its movements depends the beauty of almost every consonant, with the exception of *m*, *b*, *p*, *w*, *v* and *f*, which are taken in charge by the lips. A modern writer aptly says: "The tongue is only an accommodating waiting-maid in producing vocal sounds, but in the enunciation of consonants it plays an independent and very active part. As the fingers of the violin-player move on the strings from place to place like a wandering violin-bridge or screw, so the tongue moves up and down in the mouth, pressing here and there, now stronger, again milder."*

§ 66. *The Nature of Consonants.*

The free egress of air through the mouth is one of the essential conditions of a vowel-sound. The interception of air in its passage through the mouth causes a certain aspirated noise which we call a consonant. Various authors classify the phonetics either with regard to the muscle-action used in their production, or to the particular effect produced, or whether vocal sound accompanies the aspirate or not. I mention Friedrich Schmitt, of Germany, the author of a celebrated singing-method, as the one who divided the consonantal

* Emil Paleske, *Kunst des Vortrages*. Stuttgart, 1880.

family into three classes or groups: (*a*) *Die Klinger*, or the subvocals; (*b*) *Die Zischer*, or the hissing sounds; (*c*) *Die Drücker*, or the explosives.*

The reason why I call particular attention to this classification is because several German singing-teachers have used this grouping for the English consonants, not only in private, but also in printed works. Although many German consonants have exactly the same expiratory quality as the English, still nearly one-third differ materially from the English; so that if the above grouping be used in teaching a pupil the English consonants, his pronunciation will contain many errors. For the vocal student who uses the German language in singing, Schmitt's classification is most excellent.

How should consonants be arranged for the English vocal student? I do not think it best to classify them, according to the muscle-action, into labials, linguals, gutturals, etc., for this does not always reveal the exact nature of a consonant. The following division into two classes seems to me the most practical: (1) Hard aspirates without any vocal sound; (2) Mild aspirates with more or less vocal tone, sometimes called, on this account, subvocals.

A peculiarity of nearly all the consonants is the necessity of raising the upper lip somewhat to usher them in. Only six are excepted, namely, *b*, *h*, *m*, *p*, *w* and *wh*. This lifting of the upper lip Hey calls the preparation for the consonant or the "state of readiness."

In order to make the practice of phonetics and all articulation-movements easier for the pupil to remember, I will consider them according to their alphabetical order.

§ 67. *The Hard Aspirates.*

F, as in For.

The upper lip is lifted somewhat; the under lip is drawn up and in sufficiently to cover the lower incisors, and is pressed lightly against the edge of the upper incisors. The tongue lies flat and rather low, its tip near the roots of the lower front teeth, but without pressing against them. The middle of the lower lip allows of a small opening through which the air is blown out. The size of the

* *Neues System zur Erlernung der deutschen Aussprache.*

opening is in proportion to the force with which the *f* is formed. The greater the force, the tighter must the middle of the lower lip be drawn, and vice versa. The air-force used in the throat and the pressure of the lower lip against the upper front teeth must be determined by the dramatic power of the sentiment to be expressed.

H, as in House.

Here we meet two exceptions to the rule: First, the upper lip is not raised; secondly, our definition of a consonant does not hold true; for, in this instance, the air is allowed to escape more freely than in any vowel-sound. The letter *h* can be considered as the inception of a vowel-sound. If it follow a vowel, it is always silent. The position of the mouth for *h* depends upon the vowel that follows. The singer should also be careful to economize the air in pronouncing *h*. In no other sound is there so much danger of wasting breath as in this one. The force used in the throw of the air is the only means of regulating the expressiveness of this consonant.

Ch, as in Charm.

In reality, this is a compound letter. Its sound is shown by writing it as if spelled "tsh." The lower jaw is drawn up a little. The tip of the tongue is held against the upper part of the upper front teeth and the upper inside front gums; the sides touch the hard upper gums and the molars. Suddenly the lower jaw is dropped a little, and a small channel is formed in the front of the tongue, through which the air is hissed in a dull stream. The stronger the tongue is pressed against the parts just mentioned and the more force used in the expulsion of the air, the more forcible will these consonants sound. Milder passions are expressed by less force of tongue-pressure and air-expulsion.

K, as in King, C, before aa, ō and ū, Ch, as in Chord, and Q, as in Quell.

Raise the upper lip. The root of the tongue, the tongue-bone and the larynx are a little higher than in the vowel *ee*. The tip of the tongue is turned down nearly to the bottom of the mouth and

pressed against the lowest part of the front gum. The back of the tongue is pushed against the entrance of the air-passage into the mouth, the upper part against the hard-palate and the sides against the molars, and presses also against the soft-palate and uvula. At the moment that all these muscles contract, the vocal ligaments are closed and no air can escape. All at once the air is forced through a small opening between the back of the tongue and the hard-palate. The amount of pressure used before the explosion occurs and the degree of force in the throw of air, produce the various shadings of this letter from strong to weak.

P, as in Peace.

This is undoubtedly the most decisive explosive of all the consonants. It is formed by pressing the lips closely against each other throughout their width. Then, all at once, force the air out,* causing them to explode. I think it more pleasing if the air is not blown out from the lungs. The shading of this letter depends upon the degree of lip-pressure and the suddenness with which the lower jaw is dropped.

S, as in Sap.

The sibilant sound is produced as follows: The upper lip is raised; the teeth closely approach each other; the lower lip should be perfectly quiet; the tongue lies high but flat; its tip should not touch the inside of the upper incisors but is right behind them. The sides of the tongue should fill the whole space between the roof of the mouth and the upper teeth, excepting a small space between its tip and the two middle upper incisors. From this point to the back of the tongue should be a channel between the tongue and the roof of the mouth that is smallest between the tip and the two middle front teeth. The air is forced as a thin, sibilant sound or a hiss through the small opening back of the front teeth. In the action of grading the sibilant sound, I do not agree in one point with some authors. If the sibilant sound is to be made more intense it is, of course, necessary to increase the force of air. But they advise bringing the teeth close to each other. This, I believe, is not only unnecessary, but even dulls the hissing sound. It is better to hold the

* From the mouth only.

teeth as just directed and increase the pressure of the sides of the tongue, causing the air-channel to become narrower. This will make the sibilant sound stronger. If, on the contrary, the hiss is to be made weaker, simply lessen the pressure of the sides of the tongue, and decrease the air-force; but do not drop the jaw.

Sh, as in She.

I have often heard it said that this is the same consonant as the German "sch." This is not so. There is some similarity between them, but they differ greatly in strength and carrying-power and also in the position of the lips. The English *sh* is much weaker than the German "sch;" it is more like *s* in sound and position. The pupil should, therefore, prepare for the *s*-position, raising, of course, the upper lip, but for the rest use less pressure along the sides of the tongue. Let the tip of the tongue, which should be blunter than in *s*, be placed behind the upper incisors, thereby forming a wider channel the entire distance between the tongue and the roof of the mouth, but with less pressure of the upper lip, and then let a gentle stream of air pass through this channel. The grading of this consonant is done exactly as in *s*.

T, as in Tact.

Prepare for this consonant by raising the upper lip. Press the tip of the tongue flatways against the inside of the upper incisors and hard-gums, pressing the sides of the tongue tightly against the upper molars so that the entire air-channel is completely closed. Make a sharp explosion simultaneously with a spring-like downward movement of the tongue and jaw. Follow the rule given for *p*, namely, do not throw out any air from the lungs. There should be no aspirated or "spitting" sound — let it be a "dry" explosion. The grading of this consonant depends solely upon the pressure of the tip of the tongue against the upper incisors and hard-gums and upon the suddenness of the spring-like relaxing of the tongue and lower jaw. The distance they are dropped does not affect the strength of the explosion as some authors would have us believe; but it will affect the color of the sound. The wider the mouth is opened

at the explosion the brighter will be the *t;* the smaller the opening the darker will be the *t.*

Th, as in Thought.

Raise the upper lip slightly, and place the tip of the tongue between the teeth with its sides touching the upper molars. The breath is forced through the opening between the front part of the tongue and the upper incisors. The grading of this (in my opinion) very disagreeable sound is done by the force of the air and the pressure of the tongue against the front teeth.

Wh, as in Where.

The student is referred to the two exceptions from the rule given for *h*, the only difference being that in this case there is not quite as free an outlet for the air. The position for this consonant can be learned easiest by putting the mouth first into the position of *oo* and, without sounding it, change the position to that of *ŏ* and simultaneously aspirate strongly in these two successive positions; you will have the sound of *wh*. This consonant is to be considered as the inception of a vowel. The first position of the mouth is always that of *oo ;* but the second position depends upon the vowel that follows. It may be mentioned that whenever *wh* is followed by the long vowel *ō* or *oo* it is pronounced like *h*. The degree of force depends entirely upon the throw of the air.

X, as in Locks.

The sight of this letter has often caused pupils to say that it does not belong to the English language except as an isolated end-consonant. Its sound is found far more frequently than the letter itself. In all nouns ending with *g* or *k* that add *s* to form the plural, the sound resulting is exactly like *x*, stronger if *s* is preceded by *k*, weaker if preceded by *g*. The position is, therefore, easily learned. Raise the upper lip and get the mouth into position for *k ;* then produce the aspirate of *k* and add the hiss of *s*. The degree of force is regulated by an increase of the pressure of both the guttural and the hissing elements.

§ 68. *Articulation-Practice with the Hard, Non-Vocal Aspirates.*

The following advice applies to all articulatory practice, no matter whether done in a whisper or with the speaking-voice.

General Directions.

1. Take a full breath as in General Rule. Retain the air a little while, then do the exercise, throwing out the syllable by the muscle-action of Breathing-Gymnastic XIV.

2. The muscle-movements of the mouth, jaw, tongue, lips, etc., should be made with the greatest freedom and elasticity, and care should be taken to prevent unnatural stiffening of any muscle.

3. The end-consonant should never be allowed to glide over to the vowel beginning the next syllable.

4. In order not to fatigue the vocal ligaments these exercises may sometimes be done in a whisper, but with the same distinct muscle-action as if voice were used.

5. The pupil may gradually practice these syllables more rapidly according to his proficiency.

6. Avoid exercises on monotones, either in speaking or in singing-practice. Modulate the voice, for it stifles a musical soul to practice in a monotone. Modulation adds beauty to the voice, and melody is the life and soul of music.

7. To keep the lungs and all the vocal organs fresh and in good working order do, from time to time, Breathing-Gymnastic II.

FIRST PRACTICE.

The Strong Consonants Simply as Phonetics without Vowel-Sound.

Take each consonant separately and repeat it as many times in succession as can be done comfortably in one breath. At first it is advisable to make the aspirate as strong as possible in order to strengthen the articulating-muscles. A sharp attack with these muscles is as important as a clear and exact glottic attack for the voice or a firm touch of the fingers upon the piano. Subsequently, the various degrees of strength in the pronunciation of the aspirates are to be practiced. Pay close attention to the correct position of

the mouth and to the right muscle-action. In order to facilitate this practice I insert here the list of non-vocal aspirates: *f*, *h*, *ch*, *k* (or *q*), *p*, *s*, *sh*, *t*, *th*, *wh*, *x*.

SECOND PRACTICE.

Practice of the Non-Vocal Aspirates with the Long Vowels.

Observe the directions just given.

faa, fâ, fee, faw, fō, foo.	saa, sâ, see, saw, sō, soo.
haa, hâ, hee, haw, hō, hoo.	shaa, shâ, shee, shaw, shō, shoo.
chaa, châ, chee, chaw, chō, choo	taa, tâ, tee, taw, tō, too.
kaa, kâ, kee, kaw, kō, koo.	thaa, thâ, thee, thaw, thō, thoo.
paa, pâ, pee, paw, pō, poo.	whaa, whâ, whee, whaw, whō, whoo.
	xaa, xâ, xee, xaw, xō, xoo.

THIRD PRACTICE.

Practice of the Voiceless Aspirates with the Short Vowels.

ăf, ĕf, ĭf, ŏf, ŭf, o͝of.	as, es, is, os, us, oos.
ach, ech, ich, och, uch, o͝och.	ash, esh, ish, osh, ush, o͝osh
ak, ek, ik, ok, uk, o͝ok.	at, et, it, ot, ut, o͝ot.
ap, ep, ip, op, up, o͝op.	ath, eth, ith, oth, oth, o͝oth.
	ax, ex, ix, ox, ux, o͝ox.

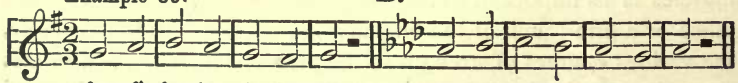
REMARK.—As *h* and *wh* can never be used as an aspirate at the end of a syllable, it would be useless to practice them as such.

FOURTH PRACTICE.

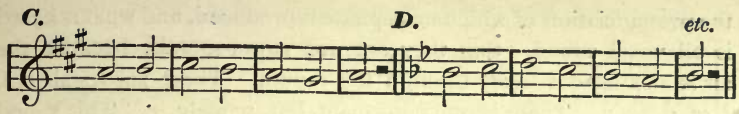
Practice of the Syllables of Second Practice with the Singing-Voice.

In the next exercises the syllables are to be sung. Observe the directions given in the beginning of Section 68, excepting No. 4 (because you cannot sing in a whisper). Use the muscle-action of Breathing-Exercise IX.

A. Example 39. *B.*



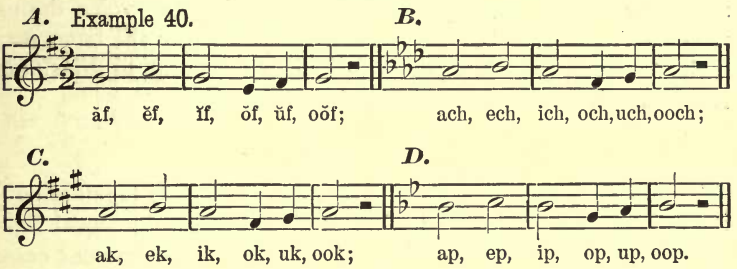
faa, fâ, fee, faw, fō, foo, faa; haa, hâ, hee, haw, hō, hoo, haa;



Sing the rest of the syllables contained in the second articulating-exercise in a higher or lower key according to the requirements of the voice. The pitch should be adapted to the voice from the beginning. The pupil should transpose all exercises on music paper, not only this exercise but all that follow.

FIFTH PRACTICE.

Practice of the Syllables of the Third Practice with the Singing-Voice.



Further transpositions for the rest of the syllables are to be selected according to the requirements of the voice, each person writing down his own transpositions. If more exercises are wanted, they can easily be adapted from Sections 48 and 52.

§ 69. *Mild Aspirates with Some Tonality.*

These consonants are a very mild aspirate produced with the same muscle-action as the strong aspirates, the only difference being in the degree of force with which they are pronounced. The mild aspirates receive so little muscle-pressure that they would have no carrying-power if the vocal ligaments did not, by a few vibrations, aid in sending them on their way with sound enough to be heard. These consonants are, *b*, *d*, *g*, *j*, *th*, *v*, *z*; their stronger brothers are, *p*, *t*, *k*, *ch*, *th*, *f*, *s* *sh*. Besides these are five others in

the pronunciation of which no aspirate is produced, and what is heard is all vocal sound. Still they are not vowel-sounds, because the air is not let out freely through the mouth. These subvocals are, *l*, *m*, *n*, *w*, *y*. There is one consonant left, namely, *r*. This sound could undoubtedly be produced with such a decided aspirate that it would have enough carrying-power of itself. It is produced easier and sounds better with vocality.

There is no need of discussing separately the dramatic expression of which each subvocal is capable as was done in treating the hard aspirates. I give here the rule for all. *B*, *d*, *g*, *th*, *v*, the two *z's* and *r* can be produced with increased or diminished force by increasing or diminishing the pressure of the air-impeding muscle-action and the vocal sound. *L*, *m*, *n*, *ng*, *w* and *y* can be made stronger or softer only by swelling or lessening the voice during the checking of the air. The muscle-action used for the latter may be increased or diminished at will. It seems natural to do so, but it neither adds to nor takes from the dramatic force.

B, as in Boy.

This, like *p*, is formed by pressing the lips lightly together and, immediately before the explosion occurs, causing the vocal ligaments to vibrate. The vibrations of the vocal ligaments must cease the moment the lips open. The difference between *p* and *b* is that in *b*, first, the muscle-action in pressing the lips is not forcible; secondly, the vocal sound is produced with it; and, thirdly, the mild aspirate is produced by blowing the air out from the lungs, while in the pronunciation of *p* a loud report occurs and no air is allowed to escape from the lungs.

D, as in Day.

Raise the upper lip. Put the front part of the tongue flat against the upper incisors and hard-gums, and close the whole air-passage by holding the sides of the tongue against the molars. Just as the light explosion is about to take place, make the vocal ligaments vibrate, and the same air (as soon as the voice-sound has ceased) escapes through the opening caused by the explosion in exactly the

same manner as for *b*. The vocal sound must be stopped as soon as the tongue-tip moves away from the hard-gums.

G, as in Go.

I refer the student to what was said for *k*. Do exactly as advised there, except that the contraction of the parts described is much less, and the air is thrown with scarcely half the force as for *k*. Just at the moment this contraction occurs the vocal ligaments vibrate, but the sound must be stopped the instant the air is expelled.

J, as in Jaw.

This letter is pronounced as the soft *g* in *genius*, and is illustrated by calling it a combination of the two subvocals *d̂* and *sh* (*zh*).

L, as in Love.

This is undoubtedly the most beautiful of all consonants. Raise the upper lip. The tongue-tip is placed against the gums of the upper incisors, but at the sides of the tongue a free outlet is left for the sound that streams out over the sides of the tongue through the mouth.

M, as in Man.

This consonant is the easiest of all to produce. Close the lips and let the vocal sound go through the nose.

N, as in Nice.

Raise the upper lip. Press the tongue-tip against the hard-gums of the upper incisors, close the whole air-channel as in forming *d* or *t*, and let the vocal sound go through the nose.

Ng, as in Singing.

The pupil should not be misled by seeing the *n* or the *g*. All that *ng* has in common with *n* is the nasal sound. It bears a little closer relation to *g* as regards the muscle-action. Raise the upper lip; place the tongue-tip at the lower incisors and the back of the tongue gently against the curtain of the soft-palate, and let the vocal sound pass through the nose. I quote from Plumptre: "A common fault in sounding this letter is pronouncing the *n* only. But in avoiding this fault the learner must not run into the other and articulate the *g*, unless custom has assigned the *g* to the following syllable, as in *anguish*, *distinguish*, *anxiety*, etc."*

* Plumptre's "King's College Lectures on Elocution."

*R, as in Rage.**

The upper lip is raised. The tongue should vibrate against the gums of the upper incisors, while the breath is propelled through the mouth. I shall not enter into particulars here, because in treating of faulty speech-habits, in Section 80, there will be better opportunity for discussing this letter. I will simply state now that *r* should always be trilled, and give the following grades of trilling it: (1) Strongest when it begins the syllable, as in "raw;" (2) nearly as strong when it is preceded by a strong aspirate, as in "trouble;" (3) a little weaker when preceded by a subvocal, as in "drive;" (4) almost as strong when at the close of a syllable, as in "more;" (5) weaker when it is in connection with the diphthongs *ai* or *ea* at the end of a syllable, as in "fair, fear;" (6) silent (smooth) when met in those combinations which, in Section 74, are classified as "mixed vowels," as in "her, burn."

Th, as in Though.

Raise the upper lip. The position of the tongue-tip between the teeth is the same as for the corresponding strong aspirate, only that in this *th* the tongue is held very loosely against the upper incisors and the breath is made as vocal as possible.

V, as in Vale.

Raise the upper lip. Place the lower lip gently against the upper incisors and let the vocal sound go between the lip and the spaces between the upper front teeth.

W, as in We.

This letter denotes a consonantal sound only when placed at the beginning of a syllable. The upper lip is not raised. Put the mouth into position for uttering the vowel *oo*, then contract the lips, produce voice and immediately draw the lower jaw slightly down.

Y, as in Yoke.

This letter also denotes a consonant only when placed at the beginning of a syllable. Raise the upper lip. The lips assume the

* Compare p. 244.

position of a slight smile. The tongue-tip is held at the beginning of the gums of the lower incisors, as in the vowel *ee*. The sides of the tongue are held against the upper molars and their gums, and the tone is forced out through the centre of the tongue.

Z—the Sounding S, as in Zone.

Raise the upper lip. Put the tongue in exactly the same position as for *s*. Let the breath out as vocal tone very gently and the correct buzzing tone will result. "It should be remembered that *s* is always vocal when, in forming a plural or the third person of a verb, it comes after a vocal sound, as, for instance, *was*, *ways*, *seas*, *songs*, *observes*. The other cases in which it is vocal are frequent." *

Z—the Sounding Sh, as in Azure.

Raise the upper lip. Put the tongue into position for the strong aspirate *sh* and produce the vocal sound with more air-force than in the preceding letter.

§ 70. *Articulation-Practice of the Mild Aspirates with Some Tonality.*

The student should turn to Section 68 and re-read the General Directions for all articulatory exercises, being sure to follow them. Beside those I add the following

Particular Directions.

Great precaution must be used in terminating the vocal element of these consonants. The beginner is liable to make two mistakes, namely, in connecting the consonantal vocal element with the following vowel, he may let the former disappear altogether, or, when a syllable ends with a vocal consonant, he may let the vocal ligaments vibrate too long. The following rules should be observed:

1. If one of these subvocals is followed by a vowel-sound the consonant, no matter whether spoken or sung, must receive its share of tonality in exactly the pitch of the succeeding vowel-tone.

* Plumptre's "King's College Lectures on Elocution."

2. If a syllable ends with a vocal consonant the vocal element should be spoken or sung in the pitch of the preceding vowel-tone. Too much attention cannot be paid to stopping it in time. The vocal element of the consonant must come to a sudden stop at the moment when the muscular interception of the sound ceases. If, for instance, the syllable *al* or *an* is sung and the vocal sound continued after the tongue has returned to a position of repose, the effect would be as if *alla* or *anna* were sung.

3. The speaker, and especially the singer, must use judgment in regard to the length of time for the vocal ligaments to vibrate and the force of tone to give to these vocal consonants. Overdoing in this respect cannot be excused on the ground that a very dramatic passage calls for an extra effort in both directions. This is not permissible in the following three elements: *b*, *d* and *g*. In regard to the others, I have heard some of the best artists stretch this point at times. Whether it was done intentionally or not I cannot say, but in no instance was the effect pleasing. In rare cases it might be tolerated on the operatic stage, particularly in representing a diabolical or a very love-sick person. Too much strength given to a subvocal is always offensive, even when of short duration; but should an artist dwell upon a subvocal and at the same time render it with excessive power, the effect is intolerable. In a very soft passage, expressive of the most tender and deep feelings, the soft vibrations of *m*, *n*, *l*, *w* or *y* may be continued a little longer; but the artist must know just where to draw the line.

SIXTH PRACTICE.

Practice of the Subvocals as Phonetics.

Each consonant of this series must be taken up separately and repeatedly spoken sharply and distinctly as many times in succession as convenient in one breath. Attention should be paid to the various degrees of strength applied to the action of the intercepting muscles and to the force of air for the vocal element. To make this practice easier I give here a list of the subvocals: *b*, *d*, *g*, *j*, *l*, *m*, *n*, *ng*, *r*, *th*, *v*, *w*, *y*, *z* (*s*), *z* (*sh*).

SEVENTH PRACTICE.

Practice of Subvocals with the Long Vowels.

Observe the directions previously given.

baa, bâ, bee, baw, bō, boo.	raa, râ, ree, raw, rō, roo.
daa, dâ, dee, daw, dō, doo.	thaa, thâ, thee, thaw, thō, thoo.
gaa, gâ, gee, gaw, gō, goo.	vaa, vâ, vee, vaw, vō, voo.
jaa, jâ, jee, jaw, jo, joo.	waa, wâ, wee, waw, wō, woo.
laa, lâ, lee, law, lō, loo.	yaa, yâ, yee, yaw, yō, yoo.
maa, mâ, mee, maw, mō, moo.	zaa, zâ, zee, zaw, zō, zoo.
naa, nâ, nee, naw, nō, noo.	zaa, zâ, zee, zaw, zo, zoo.

EIGHTH PRACTICE.

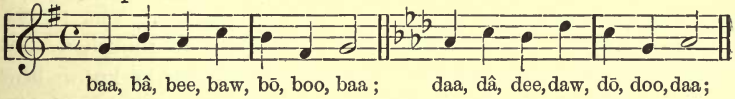
Practice of the Subvocals with the Short Vowels.

ăb, ĕb, ĭb, ŏb, ŭb, o͝ob.	ang, eng, ing, ong, ung, oong.
ad, ed, id, od, ud, ood.	ar, er, ir, or, ur, oor.
ag, eg, ig, og, ug, oog.	ath, eth, ith, oth, uth, ooth.
al, el, il, ol, ul, ool.	av, ev, iv, ov, uv, oov.
am, em, im, om, um, oom.	az, ez, iz, oz, uz, ooz.
an, en, in, on, un, oon.	az, ez, iz, oz, uz, ooz.

NINTH PRACTICE.

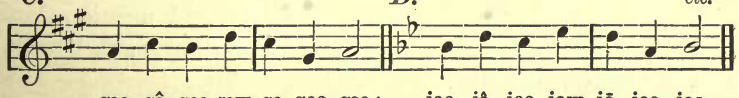
Practice of the Syllables of the Seventh Practice with the Singing-Voice.

A. Example 41. *B.*



baa, bâ, bee, baw, bō, boo, baa; daa, dâ, dee, daw, dō, doo, daa;

C. *D.* *etc.*



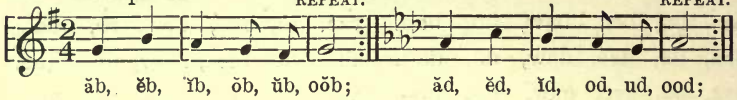
gaa, gâ, gee, gaw, go, goo, gaa; jaa, jâ, jee, jaw, jō, joo, jaa.

This exercise should be transposed to higher and lower keys according to the needs of the pupil. At each transposition a new line of the Seventh Practice is to be used.

TENTH PRACTICE.

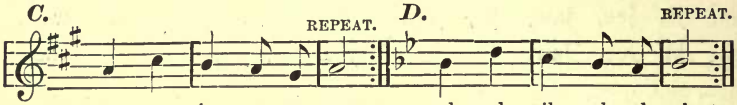
Practice of the Syllables of the Eighth Practice with the Singing-Voice.

A. Example 42. REPEAT. *B.* REPEAT.



ăb, ĕb, ĭb, ŏb, ŭb, oŏb; ăd, ĕd, ĭd, od, ud, ood;

C. REPEAT. *D.* REPEAT.



ag, eg, ig, og, ug, oog; al, el, il, ol, ul, ool, etc.

Other transpositions are left to the student, who should select and adapt other vocal exercises from Sections 48 and 52.

§ 71. *How to Use Vocalises and Solfeggios.*

Under vocalises the German school of singing includes all varieties of colorature exercises to be practiced only with vowel-sounds. These can be given to a pupil as humming or as vocal practice, to be done as softly as possible, immediately after the study of the vowel-sounds. I refer the student to what has been said on this subject in Section 49.

Solfeggios mean those studies that contain regular set pieces of music for practicing phrasing, the study of expression, articulation, etc. These are to prepare the singer for a song. What the etudes are to the piano-student solfeggios are to the vocal student.

When should such studies be given? This question and the selecting of the studies must be left to the teacher. The pupil's voice should be so far established that all breaks are abolished, that he is able to sing a good tone on all the vowels, that he knows how to execute a swell and has acquired considerable skill in articulation. Of the abundant collection of such studies I mention Concone, Vaccai, Marchesi, Nava, Porpora, Sieber, Bordogni, Uboldi, Lüttgen, Scharff, Panofka.

There are several ways to make solfeggios useful to the student:

1. One whole number to be sung with one long vowel. This must be chosen with regard to the needs of the pupil.

2. A change of vowel at every new breath, bright or dark, either in regular succession or promiscuously.

3. A change of vowel on every note except the syncopated one.

4. One articulating-exercise can be selected and the pupil requested to write the syllables contained in Sections 68 and 70 under the notes of a solfeggio, a syllable under each note unless it be a syncopated one. These syllables should sometimes be used promiscuously, in which case the student should copy the voice-part of the solfeggio on music paper and write the syllables under the notes. When he sings them at his lesson he should stand away from the teacher, so that the latter cannot see the syllables, and if he does not understand the pupil's pronunciation the syllables should be repeated until every letter is distinctly made.

CHAPTER XV.

THE COMPOUND ELEMENTS OF SPEECH.

In this chapter we have no new muscle-action nor any new shapes of the resonance-cavities. The elements are simply old acquaintances united, and we have to use the accustomed muscle-actions for the combinations. Three classes claim attention, namely, the diphthongs, the mixed vowels, and the consonant combinations.

§ 72. *The Diphthongs.*

This Greek word is sometimes translated "double vowels." This may lead to the mistaken idea that we have a diphthong whenever one syllable contains two vowels as written letters, as, for instance, "boot." This vowel-sound is written by means of two letters, but they give only one vowel-sound; therefore, we cannot call *oo* a diphthong.

Diphthong, literally translated, means a double sound. Some single characters are used to signify a double sound, as, for instance, *i;* still it is a diphthong. I shall use Prof. A. M. Bell's vowel-tables as before, but must state wherein I differ from them. In regard to vowel-sounds my aim is to catch the principal sounds and select one character for each sound, in order to facilitate the developing of a pure tone upon each. If I cannot detect more than one sound I cannot call it a diphthong; but if I detect two sounds then I must call it a diphthong. Therefore I cannot insert the long *ō*-sound among the diphthongs, no matter by what letters it is written. For the same reason I must include the sounds *ā* (*fate*), *ai* (*fair*), *ea* (*clear*) among the diphthongs whenever they have two distinct vowel-elements for the sound of *ai* in *fair*, or in *care*, or in *where*, or in *heir* is not the same as the sound in *said*, or in *read*, or in *friend*, etc.

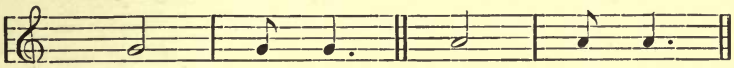
According to this theory there are seven diphthongs: *ā, ī, air, ear, oi, ou, ū.*

Can Two Different Vowels be Sustained upon one Note? If not, How is it Possible to Sing a Diphthong upon one Note?

It is evident that two vowels, each one representing a different sound, cannot be sustained on one note. The sustained note must be divided into two, and these two parts assigned to the two elements that constitute the diphthong. The amateur would sing the word "light" or "boy" in the following absurd way·

Example 43.

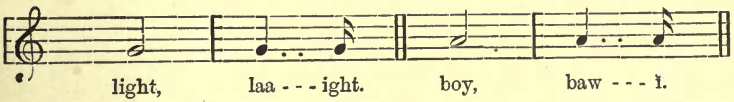
as written; badly executed: as written; badly executed.



This is far from being correct and gives rise to bad tone-production. The assignment of the two parts has been done in a way opposite to the one in which it ought to have been done. The rule is: In all diphthongs excepting *ū*, the tone is sustained upon the first vowel-element and the second one is put upon the small part remaining.

Example 44.

as written: correctly executed: as written: correctly executed.

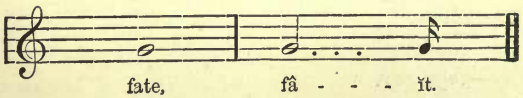


Ā, as in Fate, Mate, Age, Ale, Ache, Able, Late, Rate.

The two vowel-elements in this diphthong are *ă* and *ĭ*. Their treatment in singing differs somewhat from that in speaking. When it is sung it must be executed as follows:

Example 45.

as written: as correctly executed.



It is, of course, important to treat the *ĭ* very lightly, both in regard to duration and to accentuation. It should never receive the slightest accent. In speaking, these two sounds do not, as a rule, receive as much distinction, except when the word that contains the *ā* must receive particular stress and be sustained. In this case the first element is dwelt upon and the voice falls slightly on *ĭ*. If such a stress were given in an interrogatory sentence, as, for instance, "Do you accuse your mate?" then the voice would rise on the *ĭ* a little above the pitch of the *â*, but would not dwell upon it. This rule for singing and speaking holds good in treating all other diphthongs but *ū*. I shall, therefore, not repeat it.

This diphthong is also represented by the following letters:

ai—aim, stain, quaint, grain, hail, arraign;
au—gauge;
ea—steak, great;
ei—vein, weigh, rein, veil.

Ī, as in Idol, Idle, Excite, Vial, Ivy, Mine, Thine, Blithe, Rite.

The two vowel-elements in this diphthong are *aa* and *ĭ*. Their treatment in singing and speaking is on the same principle as in the preceding case. Do the same, only substitute *aa* for the first element.

This diphthong is also represented by the following letters:

y—by, my, sky, scythe, why, lyre, rhyme;
ais—aisle;
aye—aye;
eigh—height, sleight, heigh-ho;
ey—eying;
ic—indict;
ie—lie, die, hie, vie;
is—isle;
ig—sign;
igh—high, blight, right;
oi—choir;
ui—guide;
uy—buy, guy.

Air, as in Fair, Hair, Pair.

The first of the two vowel-elements is the so-called Yankee *ă*. I do not refer to this *ă* as a short vowel, but merely to its tone-quality, as it exactly expresses what I mean. The second sound is also hard to express, but I think the nearest is to call it a very short *aa*-sound. Its treatment in singing and speaking is exactly the same as in the two former instances. It may be well to remind the student that in this and in the following diphthong it is offensive to good taste to dwell too long on the second element.

This diphthong is also represented by the following letters:

ar—daring, care;
er—where, ne'er;
eir—heir;
ayer—prayer;
ear—swear.

Ear, as in Fear, Smear, Gear.

It is almost impossible to give a written description of the first element, which comes nearest to an *ee*-sound without sounding exactly like one. The second sound is like the one in the preceding diphthong, a very short *aa*, and its treatment is the same.

This diphthong is also represented by the following letters:

eer—queer, leer, peer, deer;
ier—pier.

Oi, as in Oil, Coin, Hoist, Anoint, Joint, Embroider, Foible, Toil, Avoid, Groin.

The first sound is like *aw* in *law*, the second a short *ĭ*. The treatment can easily be learned from the treatment of the preceding diphthongs, especially *ī*.

This diphthong is also represented by the following letters:

oy—boy, envoy, loyalty, oyster, joy, coy.

Ou, as in Thou, Around, Found, Our, Vouchsafe, Couch, Cloud.

The first element is very nearly like *aa*, a sound between *aa* and *aw*. The second sound is difficult to describe. It resembles the

short sound of *oo*. In German the second element of the same diphthong is the short sound of *oo*. Its treatment is as in the former cases.

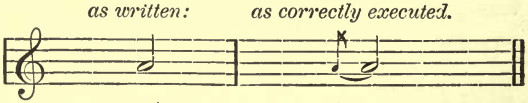
This diphthong is also represented by the following letters:

ow—cow, vowel, bow, how, brow, crown.

Ū, as in Mute, Use, Stupid, Dupe, Duteous, Nature, Tutor, Future.

The student is reminded of what has been said about this sound in Section 42, under the heading *oo*. In all cases where it is not ushered in by a consonant I consider *ū* a hybrid — neither a pure vowel nor a diphthong, but a complete syllable consisting of the consonantal *y* and the vowel *oo*. However, since it has always been classed as a vowel-element I give it a place among the diphthongs, but under protest. The very manner in which it is treated by all vocalists justifies my opinion of it. Both in speaking and in singing the long vowel-element is in the second place. Everybody sustains the tone on the *oo*-sound, and the *y* is made as quickly as any sub-vocal at the beginning of a syllable. It is unnecessary to illustrate this by a musical example, for the sounding consonant *y* needs no measured note on the musical staff for its existence. But when this *ū*-sound is preceded by another consonant, then it seems to me that the first element is treated like a short *ĭ*; for instance:

Example 46.



This sound is also represented by the following letters:

eu—feud, neuter, pseudo;
ew—dew, few, new, blew, stew, knew;
ue—imbue, virtue, Tuesday, blue;
eau—beauty;
iew—view;
ieu—adieu, lieu;
yew—yew;
you—you;
yu—yule.

§ 73. *The Practice of the Diphthongs.*

As far as taking breath and the muscle-action during the vocal act are concerned, it is almost superfluous to say that the same directions given in Section 48 for the practice of the long vowels apply here. The only difference is the dwelling upon the first vowel-element and the abrupt ending of the second element (with the exception of *ū*).

FIRST PRACTICE.

Take a full breath and hold it a little while.

ā,	ā,	ā,	ā,	ā,	ā.
ī,	ī,	ī,	ī,	ī,	ī.
air,	air,	air,	air,	air,	air.
ear,	ear,	ear,	ear,	ear,	ear.
oi,	oi,	oi,	oi,	oi,	oi.
ou,	ou,	ou,	ou,	ou,	ou.
ū,	ū,	ū,	ū,	ū,	ū.

Muscle-action as in Breathing-Exercise XIV. Do Exercise II. from time to time.

SECOND PRACTICE.

I.

ā,	ī,	air,	ear,	oi,	ou,	ū.
ī,	oi,	ā,	air,	ou,	ū,	ear.
air,	ou,	ī,	oi,	ū,	ear,	ā.
ear,	ū,	oi,	ā,	ī,	air,	ou.
oi,	ā,	ear,	ū,	ou,	ī,	air.
ou,	air,	ū,	ou,	ear,	ā,	ī.
ū,	ear,	ou,	ī,	ā,	oi,	air.

II.

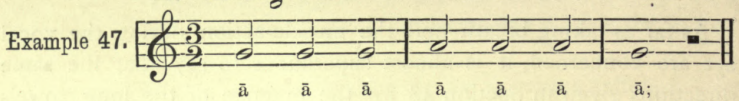
ū,	ou,	oi,	ear,	air,	ī,	ā.
ear,	ū,	ou,	air,	ā,	oi,	ī.
ā,	ear,	ū,	oi,	ī,	ou,	air.
ou,	air,	ī,	ā,	oi,	ū.	ear.
air,	ī,	ou,	ū,	ear,	ā,	oi.
ī,	ā,	ear,	ou,	ū,	air,	ou.
air,	oi,	ā,	ī,	ou,	ear,	ū.

THIRD PRACTICE.

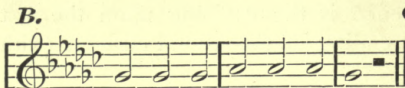
In singing the diphthongs the same rules that were given for singing the long vowels are to be observed. The student is referred to Practice 4 in Section 48. The particular features of the execution of two vowel-tones upon one note have been well illustrated in the forepart of this chapter.

A. *M. M.* ♩=72.

Example 47.



B.



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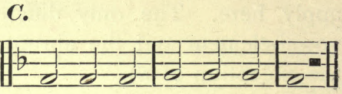

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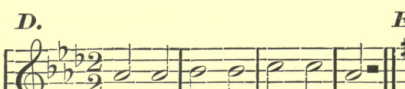
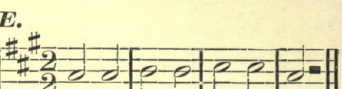


E.



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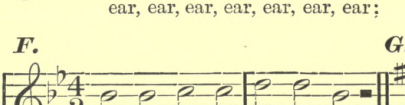
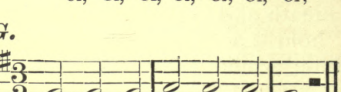
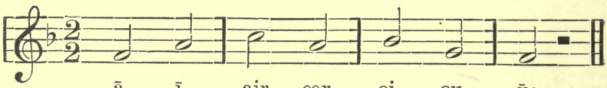


G.



Transpose these Exercises to other Keys in accordance with the requirements of your voice.

Example 48.

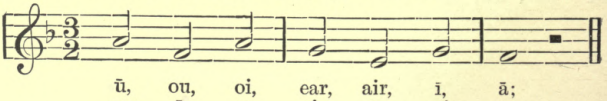


M. M. ♩=69.

ā,	ī,	air,	ear,	oi,	ou,	ū:
ī,	oi,	ā,	air,	ou,	ū,	ear;
air,	ou,	ī,	oi,	ū,	ear,	ā;
ear,	ū,	oi,	ā,	ī,	air,	ou;
oi,	ā,	ear,	ū,	ou,	ī,	air;
ou,	air,	ū,	ou,	ear,	ā,	ī;
ū,	ear,	ou,	ī,	ā,	oi,	air.

Transpose this Exercise to higher and lower Keys at every new line, in accordance with the need of your voice.

Example 49.



M.M. ♩=72.

ū,	ou,	oi,	ear,	air,	ī,	ā;
ear,	ū,	ou,	air,	ā,	oi,	ī:
ā,	ear,	ū,	oi,	ī,	ou,	air;
ou,	air,	ī,	ā,	oi,	ū,	ear;
air,	ī,	ou,	ū,	ear,	ā,	oi;
ī,	ā,	ear,	ou,	ū,	air,	ou;
air,	oi,	ā,	ī,	ou,	ear,	ū.

Transpose this Exercise to higher and lower Keys at every new line, in accordance with the directions of your teacher.

§ 74. *The Mixed Vowel-Sounds.*

In my opinion, this class does not sound like any of the long or short vowels; neither can I detect in them a double sound in the same sense that I do in the diphthongs. I take the liberty, therefore, of classifying them separately under the name of "mixed vowel-sounds." These peculiar and very unmusical sounds are found only when *r*, as an exclusively vocal sound, is preceded by certain vowels.

Like all laws of English pronunciation, this one does not seem to follow any particular principle, except that all authorities place this sound among the consonants as a species of *r*. I differ from this for the reason that I cannot detect sufficient consonantal interception of the air; and, moreover, I believe that what little there is has more the tendency of affecting the preceding vowel, thus causing that peculiar and rather unpleasant sound that I call mixed vowels. Pronounce "her" and you will find that up to its extreme end it has a freer outlet of air than has *oo*.

Er, as in Her.

The position of the mouth is similar to the one for *o* or *aw*, something between the two. The sound itself reminds me of the German *ö*, the so-called "Umlaut" of *o*. If this sound has to be sustained, I advise the student to learn the sound of the German *ö*, and whenever it is to be sung sustain it on what is very nearly the "Umlaut" of *o*. Its treatment is to sustain the sound prescribed and then, without altering the pitch in singing but dropping it in speaking, let the back of the tongue rise just a little, with a very short action, and with its tip slightly curled upward.

This sound is also represented by the following letters:

ear—pearl, earl, earn, earth;
ir—third, girl, thirsty, sir, irksome, twirl;
uer—guerdon;
or—visor, word, work, worse, worm;
ur—occur, excursion, further, burden, curdle, burn;
yr—myrrh, myrtle, martyr.

Ar, as in Are.

The vocal tone upon which this has to be sustained is very similar to *ŏ* in *not*, with this difference, namely, it must be prolonged. The final action of the tongue is exactly what it was in the preceding case, and leaves also a perfectly free outlet for the sound. Its treatment is just the same, of course with necessary accommodation to the difference of the first vowel-tone.

This sound is also represented by the following letters:

er—sergeant ;
ear—hearth, hearken ;
uar—guardian.

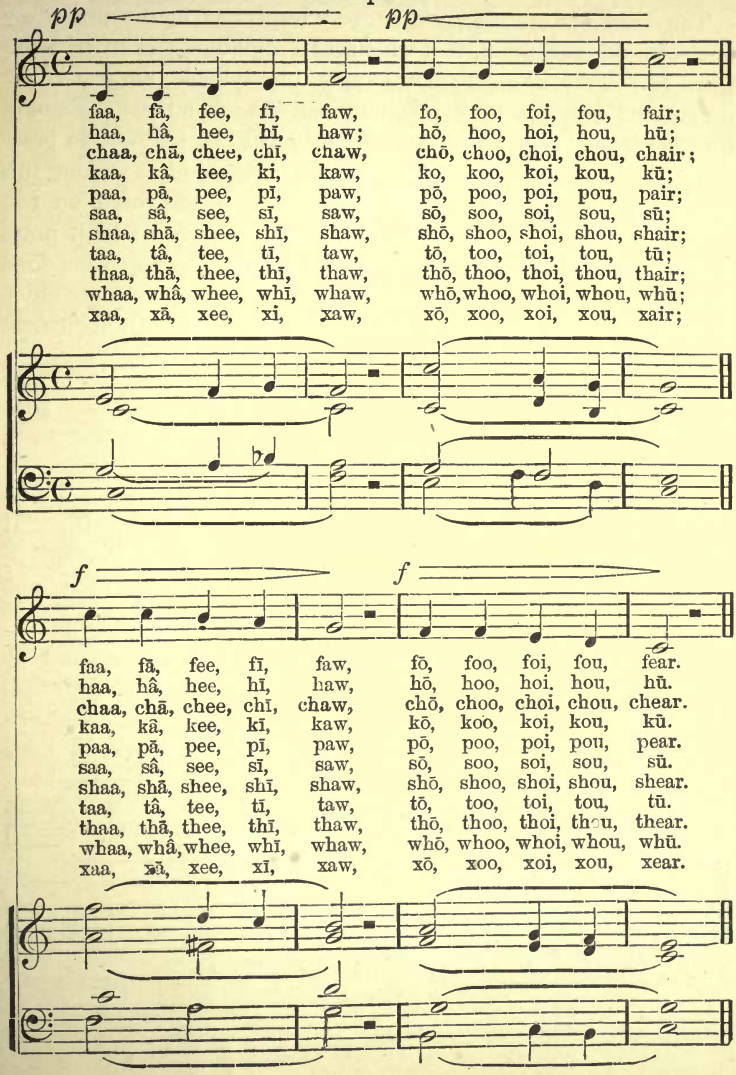
It is an open question whether the student should practice these vowel-sounds. Unmusical tones are an abomination, and I feel like leaving these mixed vowel-sounds out of vocalizing. The pupil may try them with the speaking-voice and sing them once in a while in the easy range of his voice, so as to know what to do with them in case of necessity.

§ 75. *Practice of Long Vowels and Diphthongs in Connection with Consonants.*

The taking of the breath and the muscle-action during the speaking and singing of the subjoined syllables are the same as directed for the practice of the long vowels. To save space I put the syllables at once beneath the notes, but they should first be practiced with the speaking-voice before they are sung. If practiced as a speaking-exercise the breath should be renewed before the repetition of the syllables. In the singing-exercise take a fresh breath at every half rest. From time to time do Breathing-Gymnastic II. I also wish to urge the pupil to modulate his voice in the speaking-exercise and to observe the marks of expression in the singing-exercise, and to transpose the exercises to higher and lower keys always in strict accordance with his voice and the teacher's advice.

FOURTH PRACTICE.

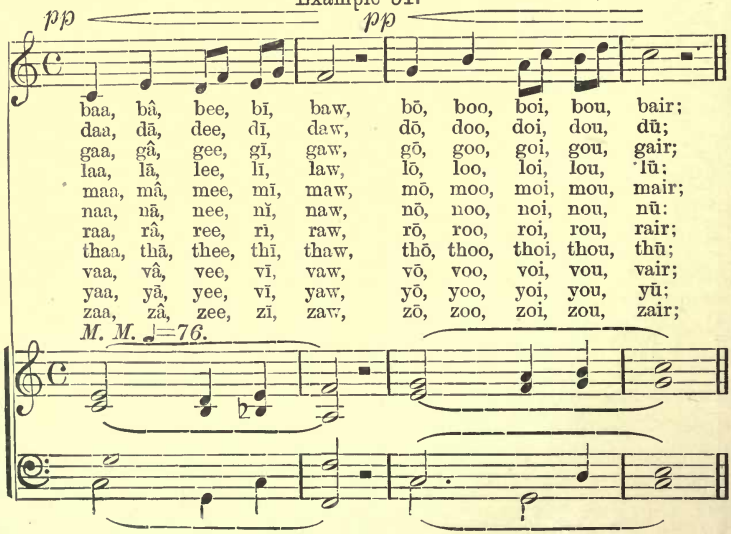
M.M. ♩=76. Example 50.

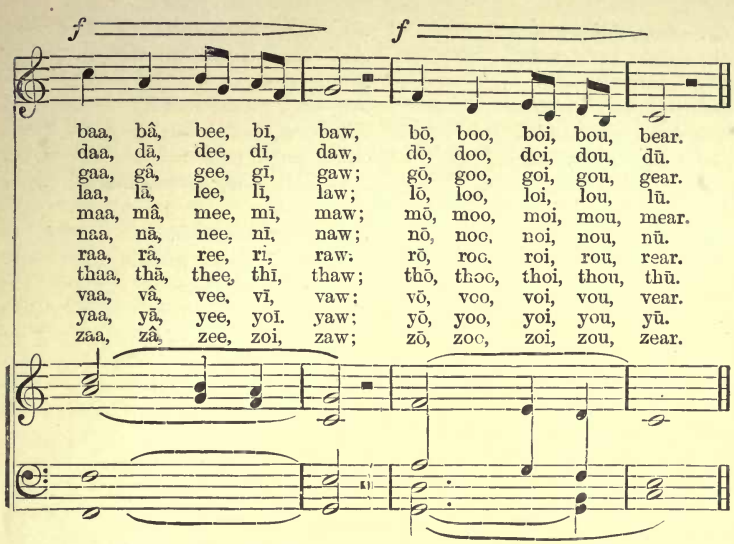


FIFTH PRACTICE.

The directions are the same in every respect as in the preceding one, with this exception, that whenever a diphthong is to be sung when two eighth notes are slurred upon one syllable, the first vowel is executed with the first eighth note and the second vowel-element with the second eighth note. This advice is to be followed in practicing Example 51. I do not wish to be understood as making this a general rule whenever a diphthong has to be executed on two slurred notes. If this occur in a very slow movement both notes must be sung on the first vowel-element, and the second one done at the finish. But when the two slurred notes are sung in quick succession, then I consider it best to sing the second vowel-element upon the second note.

Example 51.





These syllables (of Practice 4 and 5) should also be used in the study of solfeggios in the same way as advised with the articulating-exercises in Section 68.

§ 76. *Consonant Combinations.*

The following exercises should be practiced until complete control of the movable parts of the resonance-cavity is acquired. Until then it is useless to use them in vocalizing. When sufficient skill is reached, any of them may be selected in the study of solfeggios for articulation-practice, as recommended in Section 71.

First Series.

Bd.—e*bb'd*, so*bb'd*.
Bdst.—pro*b'dst*, sta*bb'dst*, ro*bb'dst*.
Bl.—a*ble*, *blow*, bu*bble*, no*ble*.
Bld.—disa*bl'd*, dou*bl'd*, trem*bl'd*.
Bldst.—trem*bl'dst*, ho*bbl'dst*.
Blz.—bu*bbles*, pe*bbles*, no*bles*.
Blst.—hum*bl'st*, trou*bl'st*.
Br.—*br*ave, *br*ight, *br*eeze.
Bz.—ro*bes*, ri*bs*, we*bs*.
Bst.—ro*b'st*, ro*bb'st*.
Dl.—han*dle*, la*dle*, me*ddle*.
Dld.—bri*dl'd*, pa*ddl'd*.
Dldst.—han*dl'dst*, fon*dl'dst*.
Dlz.—han*dles*, bun*dles*.
Dlst.—kin*dl'st*, pa*ddl'st*.
Dn.—gol*d'n*, la*d'n*, lea*d'n*.
Dnd.—sa*d'n'd*, bur*d'n'd*.
Dnz.—gar*d'ns*, war*d'ns*.

Dr.—*dr*op, *dr*ess, *dr*ive.
Dst.—di*dst*, ha*dst*, a*ddst.*
Dth.—wi*dth*, brea*dth.*
Dths.—brea*dths*, wi*dths.*
Dz.—bu*ds*, wee*ds*, o*dds.*
Dzh.—e*dge*, lo*dge*, ima*ge.*
Dzhd.—ima*g'd*, fle*dg'd.*
Fl.—*fl*ay, *fl*eece, *fl*ow.
Fld.—ri*fl'd*, ba*ffl'd.*
Fldst.—tri*fl'dst*, sti*fl'dst.*
Flz.—ri*fles*, ba*ffles*, ru*ffles.*
Flst.—sti*fl'st*, shu*ffl'st*, ba*ffl'st.*
Fn.—sti*ff'n*, o*ft'n*, so*ft'n.*
Fnd.—so*ft'n'd*, dea*f'n'd.*
Fnz.—so*ft'ns*, sti*ff'ns.*
Fr.—*fr*ame, *fr*iend, re*fr*esh.
Fs.—whi*ffs*, pu*ffs*, lau*ghs.*
Fst.—pu*ff'st*, lau*gh'st.*
Ft.—o*ft*, so*ft*, wa*ft.*
Fth.—fi*fth*, twel*fth.*
Fts.—li*fts*, ra*fts*, wa*fts.*
Ftst.—wa*ft'st*, li*ft'st.*
Gd.—be*gg'd*, ri*gg'd.*
Gdst.—bra*gg'dst*, dra*gg'dst.*
Gl.—*gl*eam, *gl*ove, ea*gle.*
Gld.—stru*ggl'd*, hag*gl'd.*
Gldst.—sin*gl'dst.*
Glz.—ea*gles*, ju*ggles.*
Glst.—min*gl'st*, stru*ggl'st.*
Gr.—*gr*ow, *gr*ip, *gr*ief.
Gz.—lo*gs*, fi*gs*, dre*gs.*
Gst.—be*gg'st*, di*gg'st.*
Kl.—*cl*ing, *cl*iff, *cl*ove.
Kld.—spar*kl'd*, cir*cl'd.*
Kldst.—buc*kl'dst*, cir*cl'dst.*
Klz.—spar*kles*, cir*cles.*
Klst.—spar*kl'st*, fre*ckl'st.*
Kn.—to*k'n*, deac*'n*, falc*'n.*
Knd.—wa*k'n'd*, dar*k'n'd.*
Kndst.—black*'n'dst*, hear*k'n'dst.*
Knz.—to*k'ns*, falc*'ns*, thic*k'ns.*
Knst.—bec*k'n'st*, wa*k'n'st.*
Kr.—*kr*aken, *cr*ime.
Ks.—oa*ks*, sti*cks*, ro*cks.*
Kst.—sha*k'st*, wa*k'st*, ne*xt.*
Ksth.—si*xth.*
Kt.—se*ct*, wa*k'd*, ro*ck'd.*
Kts.—*acts*, se*cts*, respe*cts.*
Ktst.—*act'st*, li*k'dst.*
Lb.—bu*lb*, E*lbe*, *Alb*ert, fi*lb*ert.
Lbz.—bu*lbs.*
Ld.—gi*ld*, fie*ld*, mi*ld.*
Ldz.—fie*lds*, fo*lds*, wi*lds.*
Ldst.—ho*ld'st*, shie*ld'st.*
Lf.—se*lf*, wo*lf*, gu*lf.*
Lfs.—sy*lphs*, gu*lfs*, e*lfs.*
Lft.—ingu*lf'd.*
Lfth.—twe*lfth.*
Ldzh.—indu*lge*, bi*lge.*
Ldzhd.—indu*lg'd*, bi*lg'd.*
Lk.—e*lk*, mi*lk*, bu*lk*, si*lk.*
Lks.—si*lks*, e*lks*, bu*lks.*
Lkst.—mi*lkst.*
Lkt.—mi*lk'd.*
Lm.—e*lm*, fi*lm*, rea*lm.*
Lmd.—fi*lm'd*, whe*lm'd.*
Lmz.—fi*lms*, rea*lms.*
Lmst.—overwhe*lm'st.*
Ln.—sto*l'n*, swo*l'n.*
Lp.—he*lp*, pu*lp.*
Lps.—pu*lps*, whe*lps.*
Lpst.—sca*lp'st*, he*lp'st.*
Lpt.—he*lp'd*, sca*lp'd.*
Lptst.—he*lp'dst.*
Ls.—fa*lse*, du*lse*, e*lse.*
Lst.—ru*l'st*, fi*ll'st*, fa*ll'st.*
Lt.—bo*lt*, gui*lt*, wi*lt.*
Lth.—wea*lth*, fi*lth*, stea*lth.*
Lths.—hea*lths*, ti*lths.*
Lts.—bo*lts*, me*lts*, fau*lts.*
Ltst.—ha*lt'st*, me*lt'st.*
Lv.—twe*lve*, va*lve*, so*lve.*
Lvd.—invo*lv'd*, reso*lv'd.*
Lvz.—wo*lves*, e*lves*, va*lves.*
Lvst.—revo*lv'st*, disso*lv'st.*
Lz.—toi*ls*, stea*ls*, ca*lls.*

Md.—fa*m'd*, na*m'd*, bloo*m'd*.
Mdst.—illu*m'dst*, bloo*m'dst*.
Mf.—ny*mph*, triu*mph*.
Mfs.—ny*mphs*, triu*mphs*.
Mft.—triu*mph'd*.
Mp.—po*mp*, la*mp*.
Mps.—lu*mps*, la*mps*.
Mpst.—thu*mp'st*, da*mp'st*.
Mz.—ge*ms*, plu*ms*, co*mes*.
Mst.—doo*m'st*, see*m'st*.
Mt.—pro*mpt*, conte*mpt*.
Mts.—te*mpts*, pro*mpts*.
Mtst.—te*mpt'st*, pro*mpt'st*.
Nd.—*end*, la*nd*, mi*nd*.
Ndz.—*ends*, ble*nds*, bo*nds*.
Ndst.—be*nd'st*, se*nd'st*.
Ng.—si*ng*, lo*ng*, ri*ng*.
si*nging*, swi*nging*.
Ngd.—wro*ng'd*, wi*ng'd*.
Ngdst.—twa*ng'dst*, wro*ng'dst*.
Ngz.—so*ngs*, fa*ngs*, ri*ngs*.
Ngst.—ri*ng'st*, cli*ng'st*, si*ng'st*.
Ngth.—stre*ngth*, le*ngth*.
Ngths.—le*ngths*.
Ngk.—dri*nk*, ra*nk*.
Ngks.—pra*nks*, ly*nx*.
Ngkst.—tha*nk'st*, thi*nk'st*.
Ngkt.—ra*nk'd*, tha*nk'd*.
Ngkts.—preci*ncts*.
Ndzh.—hi*nge*, ra*nge*, fri*nge*.
Ndzhd.—reve*ng'd*, ha*ng'd*.
Ns.—te*nse*, se*nse*, da*nce*.
Nst.—ca*nst*, agai*nst*.
Ntsh.—be*nch*, lau*nch*.
Ntsht.—lau*nch'd*, wre*nch'd*.
Nt.—le*nt*, re*nt*, we*nt*.
Nth.—te*nth*, hyaci*nth*.
Nths.—te*nths*, hyaci*nths*.
Nts.—wa*nts*, te*nts*, eve*nts*.
Ntst.—hau*nt'st*, wa*nt'st*.
Nz.—le*ns*, mea*ns*, va*nes*.
Pl.—*pl*ume, *pl*aid, *pl*od.
Pld.—dim*pl'd*, tram*pl'd*.
Pldst.—tram*pld'st*, peo*pld'st*.
Plz.—tem*ples*, ri*pples*.
Plst.—tram*pl'st*, rip*pl'st*.
Pn.—deep*'n*, o*p'n*.
Pnd.—o*p'n'd*, shar*p'n'd*.
Pnz.—shar*p'ns*, o*p'ns*.
Pr.—*pr*ide, *pr*aise, *pr*int.
Ps.—li*ps*, tra*ps*, ho*ps*.
Pst.—droo*p'st*, ho*p'st*.
Pt.—we*pt*, sle*pt*, tri*pp'd*.
Pts.—prece*pts*, interce*pts*.
Ptst.—acce*pt'st*, interce*pt'st*.
Pth.—de*pth*.
Pths.—de*pths*.
Rb.—o*rb*, ga*rb*, cu*rb*, ve*rb*.
Rbd.—distu*rb'd*, ga*rb'd*.
Rbdst.—cu*rb'dst*, distu*rb'dst*.
Rbz.—o*rbs*, ga*rbs*, ba*rbs*.
Rbst.—cu*rb'st*, abso*rb'st*.
Rd.—bi*rd*, co*rd*, he*rd*.
Rdz.—bi*rds*, wo*rds*, co*rds*
Rdst.—rega*rd'st*, rewa*rd'st*.
Rf.—tu*rf*, se*rf*, dwa*rf*.
Rfs.—se*rfs*, dwa*rfs*.
Rg.—iceber*g*.
Rgz.—icebe*rgs*.
Rdzh.—la*rge*, u*rge*.
Rdzhd.—scou*rg'd*, u*rg'd*.
Rk.—da*rk*, la*rk*, wo*rk*.
Rks.—ma*rks*, ba*rks*, la*rks*.
Rkst.—wo*rk'st*, ma*rk'st*.
Rkt.—lu*rk'd*, wo*rk'd*.
Rktst.—ba*rk'dst*, lu*rk'dst*.
Rl.—cu*rl*, sna*rl*, pea*rl*.
Rld.—wo*rld*, cu*rl'd*, fu*rl'd*.
Rldst.—fu*rl'dst*, hu*rl'dst*.
Rldz.—wo*rlds*.
Rlz.—pea*rls*, cu*rls*, sna*rls*
Rlst.—cu*rl'st*, fu*rl'st*.
Rm.—a*rm*, wa*rm*, ha*rm*.
Rmd.—a*rm'd*, ha*rm'd*.
Rmdst.—ha*rm'dst*, wa*rm'dst*.
Rmz.—a*rms*, fo*rms*, sto*rms*.

Rmst.—cha*rm'st*, ala*rm'st*.
Rmth.—wa*rmth*.
Rn.—mo*rn*, sco*rn*, u*rn*.
Rnd.—bu*rn'd*, sco*rn'd*.
Rndst.—retu*rn'dst*, wa*rn'dst*.
Rnz.—mo*rns*, u*rns*, ho*rns*.
Rp.—ha*rp*, wa*rp*, sha*rp*.
Rps.—ha*rps*, wa*rps*, sha*rps*.
Rpt.—wa*rp'd*, usu*rp'd*.
Rs.—pu*rse*, sca*rse*, cu*rse*.
Rsh.—ha*rsh*, ma*rsh*.
Rst.—fi*rst*, wo*rst*, bu*rst*.
Rsts.—bu*rsts*.
Rt.—a*rt*, po*rt*, di*rt*, ca*rt*.
Rts.—a*rts*, po*rts*, hea*rts*.
Rtst.—sta*rt'st*, hu*rt'st*.
Rth.—ea*rth*, wo*rth*, fo*rth*.
Rths.—ea*rths*, hea*rths*.
Rtsh.—ma*rch*, la*rch*.
Rtsht.—sea*rch'd*, pa*rch'd*.
Rv.—ne*rve*, sta*rve*, cu*rve*.
Rvd.—cu*rv'd*, sta*rv'd*.
Rvdst.—sta*rv'dst*, prese*rv'dst*.
Rvz.—ne*rves*, cu*rves*.
Rvst.—ne*rv'st*, swe*rv'st*.
Rz.—ba*rs*, sta*rs*, wea*rs*.
Sf.—*sph*ere, *sph*ynx.
Shr.—{ *shr*ill, *shr*ink. / *shr*ine, *shr*ick.
Sk.—*sk*ill, *sk*ip.
Skr.—*scr*een, *scr*ibe.
Sks.—de*sks*, ta*sks*.
Skst.—a*sk'st*, ba*sk'st*.
Skt.—a*sk'd*, ba*sk'd*.
Sl.—*sl*ime, whi*stle*.
Sld.—whi*stl'd*, ne*stl'd*.
Slz.—ne*stles*, thi*stles*.
Slst.—ru*stl'st*, ne*stl'st*.
Sm.—*sm*ile, *sm*oke.
Sn.—*sn*ow, pers*'n*.
Snd.—less*'n'd*, li*st'n'd*.
Snz.—li*st'ns*, pers*'ns*.
Snst.—le*ss'n'st*, ha*st'n'st*.
Sp.—*sp*an, *sp*eed, *sp*ar.
Spl.—*spl*een, *spl*endid.
Spr.—*spr*ay, *spr*ing, *spr*ig.
Sps.—gra*sps*, li*sps*, cla*sps*.
Spt.—cla*sp'd*, gra*sp'd*.
St.—*st*and, *st*op, *st*ar.
Str.—*str*oll, *str*ive, *str*ong.
Sts.—mi*sts*, ta*stes*, coa*sts*.
Stst.—ta*st'st*, li*st'st*.
Thn.—leng*th'n*, streng*th'n*.
Thnd.—leng*th'n'd*, streng*th'n'd*.
Thndst.—leng*th'n'dst*, streng*th'n'dst*.
Thnz.—streng*th'ns*, leng*th'ns*.
Ths.—you*ths*, fai*ths*.
Tht.—betro*th'd*.
Thr.—*thr*ob, *thr*one, *thr*ill.
Thd.—brea*th'd*, soo*th'd*, ba*th'd*.
Thz.—ba*thes*, ti*thes*, pa*ths*.
Thst.—smoo*th'st*, wri*th'st*.
Thdst.—smoo*th'dst*, wri*th'dst*.
Tl.—ti*tle*, ca*ttle*, ra*ttle*.
Tld.—rat*tl'd*, tit*l'd*.
Tldst.—rat*tl'dst*, star*tl'dst*.
Tlz.—ti*tles*, tur*tles*, bat*tles*.
Tlst.—star*tl'st*, rat*tl'st*.
Tn.—kit*t'n*, mit*t'n*, but*t'n*.
Tnd.—whi*t'n'd*, swee*t'n'd*.
Tnz.—whi*t'ns*, swee*t'ns*.
Tr.—*tr*ibe, *tr*ead, *tr*ade.
Tsh.—*ch*arm, *ch*ime, *ch*urch.
Tsht.—tou*ch'd*, wa*tch'd*.
Tsh'tst.—sna*tch'dst*.
Ts.—ba*ts*, roo*ts*, ha*ts*.
Tst.—sit*t'st*, shou*t'st*.
Vd.—li*v'd*, lo*v'd*, sa*v'd*.
Vdst.—lo*v'dst*, sa*v'dst*.
Vl.—e*v'l*, sho*v'l*, ho*v'l*.
Vld.—sho*v'll'd*, shri*v'll'd*.
Vlst.—sho*v'l'st*, shri*v'l'st*.
Vldst.—ra*v'll'dst*.
Vlz.—e*v'ls*, shri*v'ls*.
Vn.—se*v'n*, dri*v'n*, cra*v'n*.
Vnz.—ra*v'ns*, hea*v'ns*.

Vnth.—elev*'nth*, sev*'nth*.
Vz.—wav*es*, grov*es*, leav*es*.
Vst.—mov*'st*, rav*'st*, prov*'st*.
Zd.—gaz*'d*, rais*'d*, us*'d*.
Zl.—haz*'l*, dazz*le*, puzz*le*.
Zld.—dazz*l'd*, puzz*l'd*.
Zldst.—dazz*l'dst*, puzz*l'dst*.
Zlst.—puzz*l'st*, dazz*l'st*.
Zlz.—haz*l's*, puzz*l's*.
Zm.—pris*m*, chas*m*.
Zmz.—pris*ms*, chas*ms*.
Zn.—blaz*'n*, crim*s'n*.
Znd.—blaz*'n'd*, crim*s'n'd*.
Znz.—seas*'ns*, blaz*'ns*.
Znst.—reas*'n'st*, blaz*'n'st*.

SECOND SERIES.

bu-*lb*,
ga-*rb*,
pro-*b'd*,
abso-*rb'd*,
be-*gg'd*,
belo-*ng'd*,
ima-*g'd*, (dzhd)
bi-*lg'd*, (ldzhd)
ra-*ng'd*, (ndzhd)
ur-*g'd*,
go-*ld*,
trem-*bl'd*,
pad-*dl'd*,
min-*gl'd*,
twin-*kl'd*,
dim-*pl'd*,
wo-*rld*,
whi-*stl'd*, (sld)
rat-*tl'd*,
shri-*vl'd*,
puz-*zl'd*,
na-*m'd*,
whe-*lm'd*,
fo-*rm'd*,
la-*nd*,
har-*d'n'd*,
dĕa-*f'n*,
dĕa-*f'n'd*,
wa-*k'n'd*,
shar-*p'n'd*,
wa-*rn'd*,
les-*s'n'd*,
whi-*t'n'd*,
leng-*th'n'd*,
bla-*z'n'd*,
gua-*rd*,
pro-*v'd*,
reso-*lv'd*,
sta-*rv'd*,
ga-*z'd*,
brea-*th'd*,
she-*lf*,
trium-*ph*,
tu-*rf*,
sph-ere,
icebe-*rg*,
be-*nch*, (tsh)
ma-*rsh*,
ch-arm,
ma-*rch*,
wi-*dth*,
fi-*fth*,
twe-*lfth*,
wea-*lth*,
wa-*rmth*,
le-*ngth*,
te-*nth*,
de-*pth*,
no-*rth*,
si-*xth*,
indu-*lge*,
ra-*nge*,
ba-*rge*,
si-*lk*,
tha-*nk*,
ma-*rk*,
ta-*sk*,
bl-ind,
cra-*dle*,
fl-oor,
gl-ove,
twin-*kle*,
pl-an,
spl-endid,
fu-*rl*,
sl-eep,
gen-*tle*,
sho-*v'l*,
daz-*zle*,
rea-*lm*,
wa-*rm*,
sm-ile,
rhy-*thm*,
pri-*sm*,
la-*d'n*,
dĕa-*f'n*,
leng-*th'n*,
hea-*th'n*,
to-*k'n*,
sto-*l'n*,
shar-*p'n*,
mo-*rn*,
les-*s'n*,
writ-*t'n*,
se-*v'n*,
fro-*z'n*,
he-*lp*,
po-*mp*,
ha-*rp*,
sp-an,
br-ave,
dr-eam,
fr-own,
gr-een,
shr-ine,
cr-ime,
scr-een,
pr-ide,
spr-ain,
tr-ibe,
str-ive,
thr-ove,
pu-*ffs*,
gu-*lfs*,
triu-*mphs*,
dwa-*rfs*,
tru-*ths*,
brea-*dths*,
hea-*lths*,
mo-*nths*,
le-*ngths*,
de-*pths*,
hea-*rths*,
oa-*ks*,
si-*lks*,
tha-*nks*,
ma-*rks*,
de-*sks*,
pu-*lse*,
de-*nse*,
li-*ps*,
whe-*lps*,
la-*mps*,
ha-*rps*,
li-*sps*,
ho-*rse*,

foo-*ts*,
tu-*fts*,
fa-*cts*,
me-*lts*,
pro-*mpts*,
eve-*nts*,
preci-*ncts*,
pre-*cepts*,
da-*rts*,
mi-*sts*,
thi-*rsts*,
so-*ft*,
ingu-*lf'd*,
trium-*ph'd*,
lau-*nch'd*,
tou-*ch'd*,
ma-*rch'd*,
fa-*ct*,
mi-*lk'd*,
tha-*nk'd*,
ma-*rk'd*,
ba-*sk'd*,
sa-*lt*,
pro-*mpt*, (mt)
wa-*nt*,
bu-*rnt*,
ke-*pt*,
he-*lp'd*,
wa-*rp'd*,
li-*sp'd*,
pa-*rt*,
st-eel,
pro-*b'st*,
cu-*rb'st*,
di-*dst*,
pro-*b'dst*,
be-*gg'dst*,
gi-*ld'st*,
trem-*bl'dst*,
bri-*dl'st*,
tri-*fl'dst*,
min-*gl'dst*,

twin-*kl'dst*,
tram-*pl'dst*,
cu-*rl'dst*,
ru-*stl'dst*, (sldst)
star-*tl'dst*,
daz-*zld'st*,
sho-*v'l'dst*,
see-*m'dst*,
wa-*rm'dst*,
se-*nd'st*,
dĕa-*f'n'dst*,
hear-*k'n'dst*,
wro-*ng'dst*,
streng-*th'n'dst*,
tu-*rn'dst*,
li-*st'n'dst*, (sndst)
rea-*s'n'dst*,
lo-*v'dst*,
se-*rv'dst*,
rewa-*ra'st*,
sco-*ff'st*,
ingu-*lf'st*,
triu-*mph'st*,
be-*gg'st*,
bri-*ng'st*,
ra-*ng'st*—j,
indu-*lg'st*,
u-*rg'st*,
awa-*k'st*,
mi-*lk'st*,
tha-*nk'st*,
ma-*rk'st*,
ba-*sk'st*,
smoo-*th'st*,
whi-*lst*,
hum-*bl'st*,
fon-*dl'st*,
ruf-*fl'st*,
min-*gl'st*,
spar-*kl'st*,
tram-*pl'st*,
fu-*rl'st*,

ru-*stl'st*,
star-*tl'st*,
sho-*v'l'st*,
daz-*zl'st*,
see-*m'st*,
whe-*lm'st*,
wa-*rm'st*,
ca-*nst*,
wa-*k'n'st*,
shar-*p'n'st*,
retu-*rn'st*,
li-*st'n'st*, (snst)
leng-*th'n'st*,
rea-*s'n'st*,
hō-*p'st*,
he-*lp'st*,
thu-*mp'st*,
wa-*rp'st*,
li-*sp'st*,
wo-*rst*,
shou-*t'st*,
li-*ft'st*,
tou-*ch'dst*,
ena-*ct'st*,
mi-*lk'dst*,
lu-*rk'dst*,
me-*lt'st*,
pro-*mpt'st*, (mtst)
wa-*nt'st*,
acce-*pt'st*,
he-*lp'dst*,
fli-*rt'st*,
enli-*st'st*,
bu-*rst'st*,
lo-*v'st*,
reso-*lv'st*,
prese-*rv'st*,
betro-*th'd*, (tht)
twe-*lve*,
ne-*rve*,
so-*bs*,
bu-*lbs*,

o-*rbs*,
dee-*ds*,
fie-*lds*,
wo-*rlds*,
e-*nds*,
wa-*rds*,
ba-*gs*,
icebe-*rgs*,
sai-*ls*,
trou-*bles*,
pad-*dles*,
ruf-*fles*,
ea-*gles*,
spar-*kles*,
tem-*ples*,
cu-*rls*,
mus-*cles*,
ti-*tles*,
e-*vils*, (vlz)
puz-*zles*,
ti-*mes*,
overwhe-*lms*,
sto-*rms*,
logari-*thms*,
pri-*sms*,
de-*ns*,
ri-*ngs*,
war-*d'ns*, (dnz)
dĕa-*f'ns*,
to-*k'ns*,
shar-*p'ns*,
mo-*rns*,
les-*s'ns*,
streng-*th'ns*,
mit-*t'ns*,
hea-*v'ns*,
rea-*s'ns*,
wa-*rs*,
gi-*ves*, (vz)
she-*lves*,
cu-*rves*,
brĕa-*thes*.

CHAPTER XVI.

DEFECTIVE ARTICULATION AND HOW TO CORRECT IT.

The following divisions seem to me to cover the whole ground of this subject: (1) dropping the final consonants; (2) joining the final consonants with the vowel that begins the following word; (3) using a mild muscle-action when a strong aspirate is to be pronounced; (4) the defects caused by wrong muscle-action at the interception of the air; (5) stuttering; (6) organic defects.

§ 77. *Dropping the Final Consonants.*

This is almost second nature with the majority of people. In conversation probably every person is guilty of this fault, except one who has become accustomed by articulation-exercises to be careful in his speech. This neglect of correct speaking need not long occupy us; it being only a sin of omission, everybody can easily understand what the fault is. The remedy is very simple; in fact, the student who has perseveringly followed me up to this point has undoubtedly already cured himself of this fault. The remedy consists of faithful practice of the articulation-exercises and close watchfulness over speech.

§ 78. *Dragging Final Consonants over to the next Word when it Begins with a Vowel-Sound.*

Several years ago an English artist came to this country. He was extensively heralded and, among his other good qualities, was held up as a model of perfect pronunciation. I heard him sing Handel's aria, "Honor and Arms," from "Samson," in which one sentence occurs ten times. Nobody who was not familiar with the score could have made out what the artist meant by declaiming

with great vigor, "Doie cuttenty a tablow," instead of "Though I could end thee at a blow." On another occasion I heard a lady sing Tours's charming song, "Heavenwards." Would not you think her singing in Italian if you heard, "Hafarisito hebendia," instead of, "How far is it to heaven, dear?" These illustrations show better than the strongest argument how distressing this fault is to a listener. It is impossible to understand a speaker or a singer who is derelict in this respect.

The remedy for this fault is the same as for the preceding one, namely, the study and practice of the articulation-exercises, especially those with the short vowel-sounds. The Third, Fifth, Eighth and Tenth Practices must be faithfully practiced.

§ 79. *Using a Weak Muscle-Action when a Strong Aspirate is to be Pronounced.*

This is also called the substituting of a mild subvocal for its strong aspirate, as *b* for *p*, *d* for *t*, *v* for *f*, etc. Not infrequently, especially among country people, *w* is pronounced for *v*. This needs no explanation, and the remedy is easy. Exercises with syllables contrasting the correct consonant with the substituted one, marking closely the exact energy of muscle-action, will easily right such speech-flaws. I subjoin a few exercises that may easily be multiplied if more should be wanted: *baa, paa; bâ, pâ; bee, pee; bō, pō; boo, poo; ăv, ăf; ĕv, ĕf; ĭv, ĭf; ŏv, ŏf; ŭv, ŭf*, etc.

§ 80. *Speech-Defects Caused by Wrong Muscle-Action at the Interception of Air.*

There are three consonants that suffer much from this imperfect or wrong muscle-action: The fur-lined *l*; the gargling and mumbling *r*, and the lisping *s*.

I. The Fur-Lined L.

The *l*, if followed by a vowel-sound, is not a difficult consonant, and is rarely found imperfect. In case, however, that a person has difficulty in pronouncing *l* at the beginning of a syllable he should practice the following exercise: Take a deep breath and pronounce

the vowel *aa ;* stop the tone immediately, retain the air, touch the gums exactly at the ridge above the upper teeth with the tongue-tip ; then at the moment of repeating the vowel *aa*, bring the tongue down with a sharp, spring-like motion. Repeat this frequently and success will be sure.

The defective *l* appears most often at the close of a syllable. The reader knows that *l* is formed by the tip of the tongue striking sharply the roof of the mouth just behind the upper inside front gums, and simultaneously the vocal sound chimes in like the clear ring of a bell. The sides of the tongue must be kept free. The *l* thus produced is one of the most beautiful consonants. But when the point of the tongue is heavily and slowly pushed up toward the gum by a paddling movement of the thick sides of the back part of the tongue, then *l* sounds dull, and makes one imagine that the tongue and the roof of the mouth of such a singer are lined with fur. Who would wish to substitute for a clear, ringing dinner-bell a fur cap with a woolen clapper? Nobody. Therefore take care of that beautiful speech-bell.

The following exercise I find very successful with pupils affected with the dull *l* at the close of words. As *l* followed by a vowel is easy to pronounce, I let them repeat the syllable *laa* several times in succession, with the strict injunction not to interrupt the vocal sound, but sing it out strongly, keeping it up in a continuous strain, and increasing it each time as the tongue-tip strikes the front gums for each successive *laa*. In the course of these exercises the ear will observe that it sounds more and more like *lal-lal-lal-lal.* The attentive student can thus fix the muscle-action consciously, and acquire a correct pronunciation of the troublesome letter. In severer cases, however, *l* must be practiced with all long vowels in the same manner as *laa* was. Good results are certain.

In practicing these exercises the student cannot attach too much importance to the correct placing of the tongue when intercepting the air in pronouncing *l.* He must neither turn the tongue-tip too high up or backward into the roof of the mouth, for this would cause it to sound thick and nasal, nor put it too far forward to the upper teeth, for this would deprive the *l* of its beautiful natural ring and

make it sound dull. I may add that these exercises with *laa* and with the other vowel-sounds, either all or only such as may suit special cases, are a great help in getting rid of the habit of singing nasal; but the tip of the tongue must not be allowed to touch the upper front gums too high up.

II. The Gargling and Mumbling R.

Another not uncommon fault of speech is the so-called gargling or uvular *r*. This is a very annoying defect, not only on account of its dull, colorless, unmusical sound, but also because it makes all words containing *r* indistinct. The *r* is, unfortunately, badly treated by the majority of people who call the English language their mother-tongue. I have not yet been able to classify the varieties of English *r's* in vogue. One thing I notice is that the tongue-tip is rarely used in its pronunciation, and that a beautiful, characteristic, rolling *r* among a great number of Americans and especially of Englishmen is rather looked upon as an affectation, as Prof. A. M. Bell* remarks. In its stead, a sound is substituted that is more like a lazy, mumbling *y* or *w*. Of the *y locum tenens* of *r* we have too many living examples around us, and of the English "awistocwatic dwawl," very amusing representations can be found by reading Fitznoodle in *Puck*. It is to be regretted that the English language should thus lose a consonant that ranks in beauty, majesty and expressiveness as far above all other letters as the Grossglockner does above the surrounding mountains.

This wholesale slaughtering of *r* among English-speaking people is incorrect, no matter whether it is drowned in *y*, mumbled with *w*, or gargled with the uvula.

R, as a rule (see Section 69), should be trilled, or, in technical phrase, be pronounced as a lingual, which means that the tongue-tip is turned up and back. The more strength needed for *r* for dramatic effect, the further back must the tongue-tip be turned, and in proportion to the force with which the air is expelled and made to vibrate with the tongue-tip will the trill be increased in rapidity and in vocality. As far as I know, American authorities

*Bell's "The Faults of Speech."

agree that if *r* is to have any meaning and expression, it must be trilled. English authorities seem to be of similar opinion. A. J. Ellis, in his "Speech in Song," says: "So many persons have difficulty in pronouncing *r* even before a vowel, so many more in pronouncing it when not before a vowel, and it is so necessary for the proper pronunciation of any foreign language, especially Italian, that it should be pronounced easily in any situation. It so much conduces to the intelligibility of English singing to be able to touch an *r* finally and lightly, that to gain a perfect mastery over it is worth any amount of practice to a singer."

This brings us to the practical work of acquiring a correct lingual *r*. In the January, 1880, number of *Werner's Voice Magazine* was published an article by me upon this subject. I will repeat some of the exercises there given, reinforced with subsequent experience.

The Method of Acquiring the Lingual R.

The difficulty in pronouncing the lingual *r* is increased or diminished by its position in a word. At the end of a word, especially if followed by a consonant, it presents the greatest difficulty. Immediately preceding a vowel it is not quite as troublesome. The easiest *r*, however, is the one ushered in by the consonants *b*, *c* or *t*. It is advisable to begin the battle where the trouble is the slightest. The position of the tongue in lingual *r* is very much as in *d*. The general rule, therefore, for all practice is to substitute *d* for *r* in the pronunciation, and to concentrate the will-power and imagination to realize a vibrating movement of the tongue-tip.

FIRST PRACTICE.

Pronounce many times, very rapidly in succession, the syllable *bdâ**, *bdâ*, *bdâ*, *bdâ*. Afterward *cdâ*, *cdâ*, *cdâ*, *cdâ*, followed by an equal number of *tdâ*, *tdâ*, *tdâ*, *tdâ*, instead of *brâ*, *crâ* and *trâ*. As soon as some tingling of the tongue is felt similar to a rolling *r*, the same exercise should be done with all the other vowel-sounds, one at a time.

* *A* pronounced as the *ay* in *day*.

Next, select words like the following: *Bran, bread, break, breeze, brag, brow, crag, craw, cream, crown, cross, trade, trial, train, tree, trim, try*, etc.; repeat each one by itself many times in succession, invariably substituting *d* for *r*, as *bdan* or *bdead* for *bran, bread*, and so on with the others. Before long some vibrating of the tongue-tip will be felt, and a tolerably good rolling *r* will result. Now practice the *r* prefixed by other consonants with the syllables *drâ, frâ, grâ, prâ, shrâ*, etc., again substituting *d* for *r*. The same good effect will soon be reached, and then, as before, practice words beginning with these consonants. I give a few examples: *Drain, draw, drift, drop, frame, frank, fresh, frolic, grace, grass, green, ground, praise, preach, prime, program, progress, shred, shrine, shrink, shroud.*

SECOND PRACTICE.

Take a deep breath and retain it while the head is raised high and backward; then, quickly throw it forward and down, but not too far. As soon as you begin to throw the head forward, expel the air forcibly at the point of the tongue, keeping the lips compressed, and open only a little in the middle to emit the breath. If this exercise is well directed the tongue-tip will soon vibrate. After this, add some voice-sound, which will make this exercise sound like a rumbling, rattling string of *rrrr's*.

In addition, practice the following: Pronounce in quick succession a great many *dâ, dâ, dâ, dâ*, and *eddâ, eddâ, eddâ, eddâ*, with the accent on the second syllable, *e* pronounced like *e* in *let*, and *â* as before. As soon as the tongue can be made to vibrate so that the *d* sounds more like a lingual *r*, the same exercise should be done with the vowel *aa*, as *daa, daa, daa, daa, adaa, adaa, adaa, adaa*, etc. When the tongue is able to vibrate in this, the *ee*-sound comes next: *ĭd, ĭd, ĭd, ĭd, ĭdee, ĭdee, ĭdee, ĭdee*, etc. Subsequently, select words as a test of the result gained, pronouncing *d* for *r* in each word many times in succession. I give a few words for practice: *Ray, raise, erase, erect, rave, ready, array, rod, road, irritate, irreverent, rub, oratory, rude, rectory*. Two especially helpful words with the substitution of *d* for *r* are: *Bury* (*buddy*) and *burrow* (*buddow*), each one done in rapid succession many times.

The pupil will now be sufficiently advanced to attempt the most difficult *r*, namely, at the end of a syllable.

THIRD PRACTICE.

Utter with great rapidity and without stopping, *ed, ed, ed, ed;* then *bed, bed, bed, bed*, etc. As soon as a slight tingling is noticed try to change it to *bĕrr, bĕrr, bĕrr, bĕrr.* It should not be pronounced as a mixed vowel (Section 74) but as a distinct *ĕ* and trilled *r.* Succeeding in this, change the short *e* into the sound *aa*, and practice a long series of *băd, băd, băd, băd*, which will develop the word *bar.* Take the *o* in *nod, nod, nod* and you will gain *nor;* take the long *o* in *bod* and it will soon become *bore;* the short *u* in *bŭd* will result in *bŭrr.* I add a few words for practice: *Code—core; fod—for; sode—soar* or *sore; stode—store; shode—shore*, etc. In addition to these take words where two *r's* have to be pronounced, especially of the kind described in the second and third practice, as *rector, rater, repair, require, restore, roar, rare, rear*, etc.

Selected reading and songs may now be practiced, substituting, if it should still be necessary, *d* for *r.* Great energy and perseverance are indispensable, but they will surely lead to success. I know of no faithful, intelligent pupil who was not victor over a bad *r* in a month or even less. Still, in order to establish the lingual *r* in its full strength and flexibility, practice should be continued several months, although the daily practice may be shorter.

Mme. Emma Seiler, in "Voice in Speaking," makes the incredible remark: "It frequently needs years of practice to render the lingual *r* habitual." I can readily see why she had such disheartening experience with her pupils in this respect. I call the reader's attention to the fact that all exercises given for the improvement of a faulty *r* must aim to concentrate the tongue's action at the point in an infinite number of repeated motions of the tongue-tip, all alike, without the slightest variation of any muscle-action. Mme. Seiler gives the following syllables, which must be pronounced according to German pronunciation: *Hade, hado*, or *ade, ado, ada.* The introduction of *aa* and *ĕ*, and of *aa* and *o* in immediate succession must retard the progress of the tongue toward a lingual *r*

on account of the change of muscle-movement from *aa* to *ĕ* and *aa* to *o*; furthermore, the use of the breath-wasting letter *h* is sufficient to kill the best effort, not only because it is fatiguing to renew the breath as often as the ever-repeated *h* would require, but it fails to concentrate the air toward the front part of the tongue, which, consequently, cannot be brought to vibrate sufficiently to produce lasting results.

Against this theory of the singer's lingual *r*, a writer in *Werner's Voice Magazine* (Vol. II., No. 2) made the following sneering remark: "It would sound strangely enough to always give it an obstreperous rattle. Imagine the first verse of Beethoven's 'Adelaide' with all the *r's* rolled: 'Lonely wander-r-r-s thy fr-r-r-iend in spr-r-r-ing's gr-r-r-een gar-r-r-den.' Such reading or singing would not be tolerated." I admit it, but is not such an argument a great deal more intolerable? Evidently the writer is unacquainted with the real nature of the lingual *r*. He takes the same wrong standpoint that Dr. Merkel, in his *Physiologie der Sprache*, defends, and that was so thoroughly and successfully refuted by Gustav Engel (*Consonanten der deutschen Sprache*). I must remind him that the degree of strength and the number of lingual vibrations in *r* can and must be modified according to scientific and artistic principles. The *r* is produced with the most powerful though spring-like force, when it stands in the beginning of a word, no matter whether it is preceded by a consonant or not. As a rule, it will be milder in the middle of a word or as final letter.

The artistic singer will, of course, apply these rules according to his taste and talent, just as he thinks best for the realization of the dramatic truth. There is no other consonant capable of expressing so much passion as the lingual *r*, on account of its energy as a consonant and the strength and shade of its vocality, which is not surpassed by its only rival, the expressive and beautiful *l*. Still this same lingual *r* is capable of picturing the sweetest emotions of the soul. How is this possible? The pronunciation of the lingual *r* is regulated by the swiftness and strength of the breath, by the position of the tongue and the number of its vibrations. The very strongest dramatic *r* is produced by the tongue being turned up to

the roof of the mouth back of the gums, by an energetic throw of the air and several powerful vibrations of the tongue-tip. The *r* for the expression of tender emotions requires the tongue-tip more forward, where *l* is pronounced, with a mild breath and only a gentle whisper of one vibration. Between these two extreme points are found the modifications and shades of the rolling *r* for all other situations and emotions. A singing-master with real appreciation of scientific principles and true artistic taste will at once decide the mildest and sweetest lingual *r* for the first words of Beethoven's "Adelaide." If, however, a man knows only one degree of lingual *r*, and would represent the most tender flow of words which Beethoven has set to the sweetest strain of melody by giving, instead of the sweet, sympathetic *r* just described, "always an obstreperous rattle of three r-r-r's," I admit he must have left a screw loose somewhere to cause such distressing rattling. I should add, in fairness, that this writer in a later number of the magazine cited, retracted his words, and declared himself in accordance with the standpoint taken in this book in regard to the lingual *r* in English.

III. Lisping.

This is quite a common habit, but is comparatively easy to cure. An intelligent person has no excuse for lacking sufficient energy and perseverance to overcome a defect that makes the speech of the wisest man appear childish and even idiotic. On the stage lisping is not tolerated. Still we find lisping clergymen and lawyers. Lisping is not caused by any organic malformation or misproportion of the organs of articulation, if the speaker has no difficulty with other consonants except *s* and kindred hissing elements. It is only a bad habit, and can be broken.

Lisping is the habitual substitution of *th* for *s* and similar sounds. *Th* is undoubtedly the ugliest element of the English language. Naughty children, in all parts of the world, incapable of stronger language, use it to deride each other. Certain lower animals employ a vicious *th* for expressing their contempt, fear or anger. It is unfortunate that such an ill-natured element was introduced into the

English language; but happily there are not many words burdened with this emblem of helplessness.

Poor creature that lisps! what frightful ungainliness he stamps upon his speech by substituting this blemished sound for *s* and kindred sibilants! What is speech without an *s*? This sound is capable of great modulation, which, probably, accounts for its being more often employed than any other consonant. Take into consideration also the other similar hissing sounds, in order to fully recognize the lisper's atrocity of dismasting them all and dragging them down to the mockery of a sluggish *th*.

The Cure of Lisping.

The first thing necessary is to know the exact physiological difference between pronouncing *th* and *s*. For *th* the tip of the tongue is flattened and pressed against the upper incisors; the middle of the tongue is made convex, the air passes out through a lateral aperture on each side of the tongue's tip, while the edges of the tongue back of these two open channels are loosely flattened against the side teeth.

For *s* the tongue-tip is raised to the upper gum, although not pressed against it, but left free so that the air can pass over it by a central aperture with a sharp, hissing sound, for which purpose the edges of the tongue are pressed strongly against the side teeth. I must point out the importance of this pressure of the tongue's edges against the molars. This muscle-action must hold the edges of the tongue in a powerful grasp, and it is the failure of this muscle-action that causes a person to lisp; for if the sides of the tongue are not held firmly against the molars, the air, as it is expelled, will throw the tongue forward, so that involuntarily it is brought to the position of *th*, and this element is, consequently, brought out instead of *s*.

The cure of lisping consists in the following exercise: Take a deep breath with the diaphragm; retain it a short time, then pronounce without voice-sound the word *thee* with a prolonged whisper, during which the tongue is drawn back and its edges crammed firmly against the molars; at the same time the point of the tongue is raised to the upper gum. Then give to the continued whisper a sudden impetus,

increase at the same time the grasp of the tongue against the molars and the hissing sound of *s* will appear and may either be sustained or expelled with repeated impulses as many times as can comfortably be done in one breath. If it is very difficult to raise the tongue-tip after *thee* is pronounced, Prof. A. M. Bell's advice to use the edge of a paper-cutter to push the point of the tongue up to the gum may assist. This exercise should be done many times in succession. The lisper will soon perceive that he is not pronouncing *thee* but *these*.

When the *s* in *these* becomes very easy, not before, similar words may be selected and exercised in the manner prescribed, each many times in succession, as *those*, *throes*, *thrice*, *thus*, etc. As a step further, practice in the same way *thrush*, *thrust*, *thirst*, *thistle*, etc. As soon as the lisper is able to pronounce the *s* in these words he may take the following words and treat them as in the former exercise: *Aunts*, *brats*, *dense*, *dents*, *ends*, *derides*, *lents*, *lens*, *dins*, *dints*, *lets*, *divides*, *divines*, *fades*, *dolls*, *domains*, *needs*, *nuts*, *pins*, *dots*, *pints*, *plants*, etc. As a step further practice: *Dips*, *dims*, *dikes*, *dogs*, *breaks*, *books*, *catch*, *falls*, *cross*, *loss*, *boss*, *loose*, *fuss*, *nose*, *does*, *progress*, *refresh*, etc.; *easy*, *cosy*, *assent*, *basin*, *daisy*, *hazy*, *fusion*, *fussy*, *grisly*, *lazy*, *massive*, *music*, *muscle*, *passing*, *posse*, *razor*, *racy*, etc.; *safe*, *salt*, *saint*, *see*, *sell*, *sue*, *style*, *sure*, *sweet*, *swag*, *zone*, *son*, etc. Next in order will be words containing more than one hissing element, as: *Baseless*, *assassins*, *assize*, *associate*, *exercises*, *gaseousness*, *grossness*, *listless*, *lists*, *mysteriousness*, *musicians*, *nuisances*, *noxious*, *ostensible*, *personages*, *passages*, *possessors*, *seasons*, *seaside*, *secrecies*, *senescence*, *systems*, *sensuousness*, *senseless*, *successions*, *self-sufficiency*, *switches*, *sexagesima*, *sexagenarians*, *spouseless*, *strategies*, *subsistence*, *successless*, *suicides*, *suspenses*, *transcendance*, *wishwash*, *zigzag*. The most difficult *s* for the lisper is invariably the one preceded by *th*, as: *Booths*, *loathsome*, *withstand*, *paths*, etc.

All these words should be practiced in the manner advised very slowly in the beginning, each word many times in succession, and in a whisper; for variation they may sometimes be done with voice-sound. After the lisper has gained sufficient control over the *s* in the preceding exercises, he may slowly read aloud and pronounce

all the words containing an *s* with the consciousness of that cramming of the sides of the tongue against the molars and the raising of the tongue's tip to the gum.

§ 81. *Stuttering.*

The features of this malady vary. So far as I know, no particular outward appearance furnishes a sure clue to its causes.

What is usually the cause? The belief that stuttering is simply an impediment of speech caused by malformed articulating organs has not wholly died out. Accordingly, doctors have resorted to painful operations with no result other than to make the victim feel his misery more than ever.

Let us look at the principal features by which a stutterer is recognized. At a glance one sees convulsive contractions of the jaw, lips, the tongue and throat-muscles; the eyes are a picture of despair and distress, the brows and forehead adding thereto. Closer observation reveals the fact that the breathing-muscles are kept either entirely rigid after expansion so that no air, no sound, can be emitted in spite of the most violent efforts, or else the air is jerked out convulsively with inarticulate sounds, similar to the effect, as described by a German writer, of some one holding a full demijohn over the upper part of the arm and suddenly turning the open mouth straight down; the liquid cannot flow out evenly and freely, but with violent jerks a little squirts out at a time. This illustration might convey the impression that I think the cause of stuttering is in the wrong use of the breathing-muscles. At present, I neither contradict nor confirm this. Others think that the cause lies in too rapid articulation, a habit often contracted by children through excited, quick talking and which gradually fixes itself upon them as stuttering. The same authors also claim that the cure consists simply in removing the cause, namely, the stutterer must force himself to talk very slowly and deliberately, thus in time breaking himself of the habit. There is a grain of truth in both of these assertions; how small a grain will be shown later. Many cases are on record where the habit of stuttering has been acquired by children who, in a spirit of recklessness, mocked a stuttering playmate and

fell gradually into the same trouble themselves. My experience is that in most cases neither the stutterer nor anybody else knows how he became a stutterer.

I have used the word habit in connection with this difficulty of speech. It is doubtful if it can be correctly so called. I say "habit" in this connection because it is commonly so used. But is stuttering a habit or is it a disease? If the latter, is it a bodily ailment or is it a mental disease? I believe it may sometimes be caused by bodily disorder or disease. Scarlet and typhoid fevers have left persons stutterers for years, though they gradually outgrew it. In such cases, I believe that they always stutter whether they are alone or with others, and it seems to be a mere local trouble, a weakness of the muscles belonging to the organs of articulation, the breathing-apparatus, or the throat.

These are, however, isolated cases, and it cannot, therefore, be laid down as a rule that stuttering is a physical trouble. Is it, on the other hand, a mental disease? Not exactly. What is it, then? It is caused principally by nervousness; it grows worse through nervousness, its cure is made exceedingly difficult on account of nervousness, and if cured a relapse is very easy because of nervousness. Among the innumerable ailments that flesh is heir to, none are so little understood as diseases of the brain and of the nerves. Therefore, I believe that a true understanding of a stutterer's case will be possible only when we have a more thorough knowledge of the brain and nerves.

A singular fact is that no stutterer experiences trouble when reading or singing aloud in concert with others, or when reading aloud, or singing and speaking alone, sure that nobody hears or sees him. As soon, however, as another person appears he will at once stutter. Keeping this in mind, how can it be said that stuttering is only a habit? Any unnatural and awkward movements to which a person is habitually addicted will be continued whether he is alone or with others.

An educated stutterer has a clear understanding of what he wishes to say; the whole sentence is in his mind, not only the words but the letters; still he cannot speak them. This could not be the case

if a person stuttered only because he is ignorant and cannot think of the right word. I have met a few educated ladies and gentlemen who, in certain conditions of their nerves, either on account of great excitement or bodily fatigue, could not for the moment think of the right word, and showed, consequently, all the symptoms of a stutterer. I am not prepared to say whether they might develop into a regular chronic case or not. I have never known of such an occurrence, for when the nerves had returned to their normal condition all appearance of fettered speech had vanished. These facts long ago led me to the conclusion that stuttering is mainly a disease of the nerves, and that it is commonly the outgrowth of nervousness which in the course of time, becomes chronic.

The Treatment of Stutterers.

The treatment of stutterers must be in accord with this conclusion. What is nervousness? It may be defined as being the fear of failure, or a certain shame and dread in anticipation of failure. This may not always be wholly the fault of the nerves in the beginning of the trouble, though, as a rule, the nerves are predisposed to it. If the fear of failure comes from the feeling that one is not sufficiently prepared for what he is about to undertake, then the nervousness can easily be explained. I once knew two young men who were to deliver a memorized oration. One was extremely nervous and was frequently the target of unkind and sarcastic remarks. The other one seemed indifferent to the occasion. At the delivery of their speeches both broke down and left the platform in utter confusion. The shame over their failure made them so nervous that at every future attempt they were in the greatest fear of breaking down, and really did break down. The first one was finally forced to give up entirely, as he became a stutterer; the other had to stop for nearly a year, but triumphed and finally became a successful speaker. I am convinced that both would have overcome their difficulty had proper methods been employed. No encouragement, no sympathy was offered, but their troubles were increased by the harsh, unkind treatment they received. At the first failure the professor severely reprimanded and even ridiculed them before

the class, and the students laughed and applauded the professor. Had the teacher treated them gently at that time and encouraged them, had he tried them a few weeks later before a few friends only, I believe that neither of them would have experienced further trouble.

There are many vocal pupils who are very nervous in the beginning, especially if they take a lesson before other pupils and the more so if these are advanced singers. This has such an influence over their nerves that they are sure to fail completely. If they had been alone with the teacher they would have done well. If they continue to take lessons before the other pupils they get used to their presence, and as they become conscious of their own improvement this nervousness will gradually wear off until, finally, they will prefer to sing and to take lessons in the presence of others, and will do better than when singing alone. In my opinion this nervousness of vocal students, though less in degree, is similar to that of stutterers, and the same treatment will frequently answer for both.

The first step toward a cure should be taken by the stutterer's family or friends, who should neither scold nor laugh at him. The best way is to take no notice of his struggles, but treat him as if everything was all right. If he tries to say something and hesitates, they should seem not to notice it, but either wait or say something else. Visitors should be instructed to act the same way, and they would do especially well to keep their "isn't it too bad," "I am so sorry for the poor fellow," and other similar expressions to themselves.

The second step consists in looking after the stutterer's physical condition and habits, and removing whatever may cause nervousness or weaken his bodily vigor. The aid of a physician may be necessary.

The third step is the study and practice of the correct method of breathing as given in this book. In connection with breathing-exercises the stutterer should train his respiratory muscles to respond readily to his will, for, as already said, the main trouble is either because he holds his breathing-muscles in such a convulsive grasp that he cannot inhale, or he is unable to relax his muscles after inhalation. The subsequent convulsions of the articulating-muscles cannot be considered a speech-defect, since they are simply the result of a

disturbance in the respiratory process. It is imperative that a long time should be spent in training the breathing-muscles before attempting phonetic and articulation-practice. When these are begun close attention should be paid to taking the breath and to emitting it during voice-use. Perfect control of the breathing-muscles is the indispensable condition of further progress.

The fourth and very important feature is to practice the breathing as well as all the exercises invariably in the presence of others. At first the stutterer may try the exercises alone in order to become familiar with them; but thereafter he should practice before other persons, who should conduct themselves in the way already indicated. The rule here laid down should be observed through the whole course of treatment even after the stutterer is supposed to be cured, otherwise there is danger of a relapse.

The fifth step is the study and practice of the vowels and consonants. Close attention should be paid to the various positions and muscle-actions. In producing tone the stutterer should be impressed with the importance of keeping the throat and resonance-cavities completely relaxed and to throw out the air with the push of the diaphragm (Breathing-Gymnastic XIV.). The phonetic and articulation-practice should be done very thoroughly, frequently in a whisper.

The sixth step is to read before others. In doing this, care should be exercised to take breath properly, to hold it a little while and then begin reading, doing this at every renewal of breath and keeping the throat relaxed. All words should be expelled by the action of Breathing-Gymnastic XIV.; and Breathing-Gymnastic II. should be frequently done.

The seventh step is the cultivating of the singing-voice. I have found it of great help in allaying nervousness to conclude a stutterer's lesson each time by singing, just as soon as he is able to sing even the simplest exercise. I do not know of a better way to overcome nervousness than by singing before others.

REMARK 1.—The omitting of a discussion of a kindred speech-affection, namely, "stammering," is not because I make no difference between them, but because the aim of this book is

to be practical and to avoid all unfruitful discussions. For a discussion of the theoretical side of the subject the reader is referred to Plumptre's "King's College Lectures," Hunt's "Stammering and Stuttering: Their Cause and Treatment," etc. In their treatment I use the same method, believing that stammering is simply a milder form of stuttering.

REMARK 2.—The phonetic and articulation-practice and the loud reading should be done slowly and deliberately, with careful attention to breathing. If a spasm occur, the stutterer should cease his efforts, for no number of contortions will be of any avail. At such a crisis he should exert himself to gain control over the breathing-apparatus and then begin again.

REMARK 3.—Phonetic and articulation-exercises in whisper and vocalizing in humming-sound are very beneficial.

§ 82. *Organic Defects.*

The singing-teacher can do little else than give advice in such cases, but the physician and the dentist may be able to give relief. As far as organic defects interfere with tone-production, as in the case of elongated uvula or swollen tonsils, the subject has been treated in Section 41. Other organic malformations affect the articulation of the consonants. If a person is tongue-tied, the surgeon must cut the membrane that ties the tongue too closely to the floor of the lower jaw; or if the teeth cause defective articulation, the dentist will often be able to remove the trouble.

"A more serious organic cause of defective speech is cleft-palate, when an opening exists between the mouth and the nasal passage. The breath, which requires to be shut within the mouth for *p*, *b*, *t*, *d*, *k*, *g*, escapes by the nose and a percussive articulation is impossible. In most cases a skilful dentist can cover the fissure in the palate by a suction-plate, and the power of clear enunciation may thus be obtained." *

* Bell's "Faults of Speech."

CONCLUDING REMARKS.

Originally I intended to close my book with advice for taking care of the voice. True, the chief answer to this question has already been given in showing the healthiest way of taking and managing the breath, and of using the voice with absolutely no strain or fatigue to the throat. Wrong voice-use is, according to the best medical authorities, the most general cause of injury to the vocal organs; therefore, to know how to take breath and manage it for speaking and singing in the most healthful and natural way contains more than half the advice for taking care of the voice. Still, there are many other things that a vocalist should know and observe in order to keep his throat in a healthy condition and be able to rely upon his voice at all times. But to treat this subject thoroughly would increase the size of this book to such an extent as to make it too bulky for use as a text-book. I have concluded, therefore, to publish this essay in a separate pamphlet, which will probably appear shortly.

In concluding, one question remains to be answered:

How Long shall a Pupil Practice Daily?

I do not refer to the practice of breathing-gymnastics, but to vocalization. The student has been advised to sing the first exercises softly; at any rate, never to practice loudly. Again, only the easy range of tones is to be practiced in the beginning. Besides this, the pupil should have overcome whatever difficulty he had at first in breathing, and have acquired considerable skill in breath-control.

My first advice to a beginner is, never to practice longer than ten or at the most fifteen minutes at a time, three times a day. The

second rule is, never to practice singing after a meal; at least, an hour should elapse before vocal exercises are attempted. I, however, see no reason why a singer should not practice before breakfast, if he is in good health.

As long as only soft exercises are to be done, the pupil may increase his practice to twenty minutes, three times a day, in a couple of months. After four months he may increase it to thirty minutes, three times a day, and may spend ten minutes extra in the practice of swell-tones. After this, the length of time should not be increased for several months. At the end of a year a pupil may be permitted to practice forty-five minutes, three times daily, besides the ten minutes extra; but no singer should ever increase his vocal practice-time beyond this last limit at any future time. The advice that ladies should never practice breathing-exercises with corsets or tight-fitting dresses on, holds good also for vocal practice. Do not, as a rule, practice in a sitting position, nor play the piano accompaniment to your studies. Stand straight when vocalizing; do not allow the head to bend back nor over the chest; the latter habit causes throaty sounds. Stand in front, or, better, a little to the right of the keyboard, and keep the pitch by striking a key once in a while with the left hand. But do not become a slave to the piano; learn to take the tones independently. If you play the accompaniment to a song, sit on as high a chair as possible and not far back on the seat, so as to give the abdominal muscles as much freedom as possible.

In the back of this book are a few specimen testimonials called forth by my first work. The good opinion of men, whose success and reputation in their various professions make their judgment of weight with the public and an encouragement to students, is also highly prized by the writer. I, therefore, ask preachers, lawyers, elocutionists, presidents of colleges, principals of seminaries and academies, teachers, physicians, singers, artists, etc., and all others interested in voice-use, to communicate to me what they consider

specially useful and commendable in this book. It is, of course, understood that I wish to use these at some future occasion as I have used the ones selected for this edition.

I should also consider it a kindness to have my attention called to any weak points or other shortcomings the reader may find, for the improving of future editions.

Dear reader, having talked to you so long I feel as if we were old acquaintances as well as good friends; therefore I do not feel any hesitancy in asking the above favors, and thank you now in anticipation of your kindness.

Auf Wiedersehen,

LEO KOFLER,

279 Carlton avenue. Brooklyn, N. Y.

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